Request for Proposals

Spring Lake Campground Electrification

SW 24-75-11-W6
Saddle Hills County

Issued: 2025–03–18

Closes: 2:00 PM
Thursday 2025-04–10

SADDLE HILLS COUNTY

REQUEST FOR PROPOSALS ("RFP") WITH RESPECT TO THE:

SUPPLY, INSTALLATION AND CONNECTION OF CAMPGROUND SITE DISTRIBUTION EQUIPMENT AND CONNECTION OF EXISTING STRUCTURES

INSTRUCTIONS TO PROPOSERS

1.0 INTRODUCTION

Spring Lake Campground has an existing caretaker's office, a workshop, (9) vault-toilet structures, a cook shelter, and a well-water tank enclosure.

ATCO Electric has installed a single-phase electrical service and (5) pad-mounted transformers within the Campground.

1.1 Purpose of RFP

1.1.1 **Saddle Hills County** seeks proposals from interested parties to be the General / Electrical Contractor for the following work at the Spring Lake Campground, to **Supply & Install**:

1. **(5) Distribution panels, cabinets, bases, circuit breakers, switches, underground conduit & conductors (or teck cable) to connect to the (5) ATCO pad-mounted transformers (3 in Loop-A, 2 in Loop-B),**

2. **Sub-panels, circuit breakers, switches, conduit & conductors (or teck cable) to connect distribution panels to caretaker's office, workshop, (9) vault-toilet structures, day-use area cook shelter, well-water tank enclosure,**

3. **Light standards, bases, luminaires, photoelectric controls, switches, timers, and relays for lighting circuits as indicated on drawings, conduit & conductors (or teck cable) to connect to designated panels,**

4. **RV pedestals, receptacles, circuit breakers, bases, conduit & conductors (or teck cable) to individual campsites as per drawings,**

5. **All required disconnect switches, panelboards, pull-boxes, cover plates, grounding and any other equipment as required by Engineered drawings as attached.**

Proposals are to include a list of certifications, experience on similar projects and a general description as to how the Proposer will handle the County's needs. It is the Proposer's responsibility to identify any inability to meet the requirements specified in this RFP.

1.1.2 **Saddle Hills County (the "County")** is the sole and legal Proponent for the electrical servicing project.

1.2 If the County receives a proposal acceptable to it, the County will select one (1) or more parties who submitted a proposal (the "Proposers") with whom the County, in its sole and unfettered discretion, will negotiate regarding the terms of a contract (the "Contract") to perform the Work.

1.3 **Submission of RFP**

1.3.1 Proposers shall submit their Proposal in an envelope marked **"Request for Proposal for Spring Lake Campground - Electrification"** on or before **2:00** pm (Mountain Daylight Time) on Thurs, April 10, 2025, to:

Saddle Hills County
Attention: CAO
Rural Route 1, Spirit River, AB T0H 3G0

Proposals may be submitted by e-mail (send to admin@saddlehills.ab.ca), however faxed Submissions will not be accepted.

1.3.2 Proposals will be opened following the RFP Closing Time. No Proposal(s) submitted after the RFP Closing Time will be accepted.

1.3.3 Each Proposer may submit only one proposal. Collusion between Proposers will be sufficient cause for the affected proposal(s) to be rejected outright by the County without further consideration.

1.3.4 Any inquiries respecting this RFP should be directed, in writing, to:
Brice Daly, Manager of Protective Services
bdaly@saddlehills.ab.ca

1.3.5 Each Proposer shall designate within 5 days of the receipt of this RFP, and no later than 7 calendar days prior to the RFP Closing Time of this RFP, one (1) person to whom any additional information, as may be deemed relevant to this RFP by the County, may be communicated. The name and contact information is to be emailed to the County's designated contact person indicated in paragraph 1.2.4 above noted.

1.3.6 The County is under no obligation to respond to any inquiry submitted to it in respect of this RFP.

1.3.7 If the County, in its sole and unfettered discretion, determines that a written response to an inquiry is warranted, a written response will be prepared and distributed to all Proposers who have requested a copy of this RFP and completed the acknowledgment form. Such written response(s) will be issued in the form of an addendum to this RFP, posted on the Alberta Purchasing Connection/Build Works website, and will be deemed to be part of this RFP.

1.3.8 No inquiry submitted to the County will be responded to after **5:00 PM on Friday March 28, 2025.**

1.3.9 A tour of the campground where the work will occur, is scheduled for 2:00 PM Thurs, March 27, to allow Proposers to the view site location and conditions. No alternative dates or times will be considered. Attendance is optional.

1.4 **General Conditions Applicable to this RFP**

1.4.1 Appendices and Addenda

The appendices to this RFP and any subsequent addenda are incorporated into and form part of this RFP. The information and data contained in any appendices and any subsequent addenda may form the basis upon which a contract engagement will be entered into the Contract will be entered with the County using the Saddle Hills County Standard Service Agreement Template.

1.4.2 Safety Prequalification

As a precondition to award, the Proposer provide a valid standard, Certificate of Recognition (COR), Small Employer Certificate of Recognition (SECOR), a valid Certificate of Recognition Equivalency Letter (COREL), for out of province Proposers, or a valid Temporary Letter of Certification (TLC) for a standard COR as issued by the Alberta Construction Safety Association (ACSA) or another certifying body authorized by the Alberta Ministry of Labour to issue CORs or TLCs.

1.4.3 Disclaimer of Liability and Indemnity

By submitting a Proposal, a Proposer agrees:

a) to be responsible for conducting its own due diligence on data and information upon which its Proposal is based;

b) that it has fully satisfied itself as to its rights and the nature extended to the risks it will be assuming;

c) that it has gathered all information necessary to perform all of its obligations under its Proposal;

d) that it is solely responsible for ensuring that it has all information necessary to prepare its Proposal and for independently verifying and informing itself with respect to any terms or conditions that may affect its Proposal;

e) to hold harmless the County, its elected officials, officers, employees, agents, advisors or partnering entities in this undertaking, and all of their respective successors and assigns, from all claims, liability and costs related to all aspects of the RFP process;

f) that it shall not be entitled to claim against the County, its elected officials, officers, employees, insurers, agents, advisors, and partnering entities in this undertaking on grounds that any information, whether obtained from the County or otherwise (including information made available by its elected officials, officers, employees, agents or advisors), regardless of the manner or form in which the information is provided is incorrect or insufficient;

g) that the County will not be responsible for any costs, expenses, losses, damages or liability incurred by the Proposer as a result of, or arising out of, preparing, submitting, or disseminating a Proposal, or for any presentations or interviews related to the Proposal, or due to the County's acceptance or non-acceptance of a Proposal; and

h) to waive any right to contest in any proceeding, case, action or application, the right of the County to negotiate with any Proposer for the Contract whom the County deems, in its sole and unfettered discretion, to have submitted the Proposal most beneficial to the County and acknowledges that the County may negotiate and contract with any Proposer it desires.

1.4.4 **No Tender and no Contractual Relationship**

The Proposer acknowledges and agrees that this procurement process is a Request for Proposal and is not a tendering process. It is part of an overall procurement process intended to enable the County to identify a potential successful Proposer. The submission of a Proposal does not constitute a legally binding agreement between the County and any Proposer. For greater certainty, by submission of its Proposal, the Proposer acknowledges and agrees that there will be no initiation of contractual obligations or the creation of contractual obligations as between the County and the Proposer arising from this RFP or the submission of a Proposal.

Further, the Proposer acknowledges that a Proposal may be rescinded by a Proposer at any time prior to the execution of the Contract.

1.5 **Discretion of the County**

Notwithstanding any other provision of this RFP to the contrary, the provisions in this Section 1.4 prevail, govern and override all other parts of this RFP. The County is not bound to accept any Proposal. At any time prior to execution of the Contract, the County may, in its sole and unfettered discretion, or for its own convenience, terminate the procurement process, cancel the work or proceed with the work on different terms. All of this may be done with no compensation to the Proposers or any other party.

The County reserves the right, in its sole and unfettered discretion, to:

1.5.1 utilize any ideas or information contained in any of the Proposals for its sole use and benefit without making payment or otherwise providing consideration or compensation to any Proposer or any other party;

1.5.2 negotiate the specific contractual terms and conditions, including but not limited to the fee or price of the work, substitution of specific components and the scope of the work;

1.5.3 waive any formality, informality or technicality in any Proposal, whether of a minor and inconsequential nature, or whether of a substantial or material nature;

1.5.4 receive, consider, and/or accept any Proposal, regardless of whether or not it complies (either in a material or non-material manner) with the submission requirements or is the lowest priced proposal, or not accept any Proposal, all without giving reasons;

1.5.5 determine whether any Proposal meets the submission requirements of this RFP; and

1.5.6 negotiate with any Proposer regardless of whether or not that Proposer is the Proposer that has received the highest evaluation score, and

1.5.7 negotiate with any and all Proposers, regardless of whether or not the Proposer has a Proposal that does not fully comply, either in a material or non-material way with the submission requirements for the RFP or any requirements contained within this RFP.

1.6 Selection

Selection of the successful Proposer, if any, is at the sole and unfettered discretion of the County.

1.7 Disqualification

The failure to comply with any aspect of this RFP (either in a material way or otherwise), shall render the Proposer subject to such actions as may be determined by the County, including disqualification from the RFP process, suspension from the RFP process and/or imposition of conditions which must be complied with before the Proposer will have its privilege of submitting a Proposal reinstated.

1.8 Representations and Warranties

1.8.1 The County makes no representations or warranties other than those expressly contained herein as to the accuracy and/or completeness of the information provided in this RFP.

1.8.2 Proposers are hereby required to satisfy themselves as the accuracy and/or completeness of the information provided in this RFP.

1.8.3 No implied obligation of any kind by, or on behalf of, the County shall arise from anything contained in this RFP, and the express representations and warranties contained in this RFP, and made by the County, are and shall be the only representations and warranties that apply.

1.8.4 Information referenced in this RFP, or otherwise made available by the County or any of its elected officials, officers, employees, agents or advisors as part of the procurement process, is provided for the convenience of the Proposer only and none of the County, its elected officials, officers, employees, agents and advisors warrant the accuracy or completeness of this information. The Proposer is required to immediately bring forth to the County any conflict or error that it may find in the RFP. All other data is provided for informational purposes only.

2.0 OVERVIEW AND DESCRIPTION OF THE WORK TO BE PERFORMED

Spring Lake Campground
Legal Land Location: SW 24 – 75 – 11 – W6M
27 +/- km North of Hythe:

- From Hythe, drive North on Highway 721 for 7.7 km to Hwy 59,
- Turn right, drive 1.6 km east to Range Rd 110,
- Turn left, drive 6.4 km north to Township Rd 750,
- Turn right, drive 800m east to Range Rd 105,
- Turn left, drive 6 km to the Spring Lake access road (Township Rd 753A)
- Turn left, drive 3.5km west to the Spring Lake campground.

2.1 **Locate existing U/G ATCO primary service lines where required**

2.1.1 Hydrovac or hand-expose, where working in close proximity to, or where crossing primary ATCO service line(s),

2.2 **Supply and Install underground conduit & conductors (or teck cable) from the ATCO Pad-mounted transformers to:**

2.2.1 Distribution panels (3 in Loop-A, 2 in Loop-B),

2.2.2 Sand shall be included, to cover cables, where required in the drawings.

2.3 **Supply and Install all required above-ground disconnect switches, distribution panels, site pedestals, light standards and any other equipment and supplies as required by the engineered plans and specifications attached.**

2.3.1 Sub-panels in other areas specified in drawings are approximate locations. Exact locations are to be confirmed by the County,

2.3.2 Site Pedestals and light standards in Loop-A, in Loop-B, and in Group use area,

2.3.3 Ground-mounted sign light at campground entrance.

Engineered Drawings & Specifications

Refer to Schedule "B"

3.0 PROPOSAL REQUIREMENTS

The County reserves the right, but is not required, to reject any Proposal that does not include the requirements.

3.1 Description of the Proposal

3.1.1 Proposals shall include the legal name, address and telephone numbers of the individual, the principals of partnerships and/or corporations comprising the Proposer, and in the case of partnerships or corporations, the individual who will be the representative of the partnership or corporation.

3.1.2 Proposals shall include a description of any subcontractors, agents or employees that the Proposer expects to involve in the performance of the work. Saddle Hills County reserves the discretion to approve or reject the proposed use, by the selected Proposer of any proposed subcontract which discretion shall be exercised reasonably.

3.1.3 Proposals shall include a description of the individuals who will be performing the work including their previous experience and qualifications.

3.1.4 Proposals shall include a list of previous work of a similar nature to the work required by the County as set out in this RFP.

3.1.5 Prices for the work shall be inserted by the Proposer in the form attached hereto as **Schedule "A"** and the form shall be submitted by the Proposer at the time of the submission of its Proposal.

3.2 Execution of the Proposal

Proposals shall be properly executed in full compliance with the following:

3.2.1 Proposals and the pricing form attached as **Schedule "A"**, must be signed by the representative for the Proposer;

3.2.2 if the Proposal is made by a corporation, the full name of the corporation shall be accurately printed immediately above the signatures of its duly authorized officers and the corporate seal shall be affixed;

3.2.3 if the Proposal is made by a partnership, the firm name or business name shall be accurately printed above the signature of the firm and the Proposal shall be signed by a partner or partners who have authority to sign for the partnership;

3.2.4 if the Proposal is made by an individual carrying on business under a name other than his own, his business name together with the individual's name shall be printed immediately above its signature; and

3.2.5 if the Proposal is made by a sole proprietor who carries on business in his own name, the proprietor shall print his name immediately below his signature.

4.0 MANDATORY SUBMISSION REQUIREMENTS

4.1 Documents to be Submitted with the Proposal

At the time of the submission of its Proposal, the Proposer shall provide the following:

4.1.1 Proposer's resumes.

4.1.2 Proof of Proposer's Workers Compensation account in good standing at the time of Proposal submission;

4.1.3 A copy of all licenses, certifications, qualifications issued by the relevant authorities, which the Proposer may require in order to perform the Study contemplated by the RFP, if applicable; and

4.2 **Insurance to be carried by Successful Proposer**

At the time of the submission of its Proposal, the Proposer shall provide evidence of insurance coverage as follows:

4.2.1 standard automobile, bodily injury and property damage insurance providing coverage of at least **TWO MILLION ($2,000,000.00) DOLLARS** inclusive and in respect of any one claim for the injury to or death of one or more persons or damage to or destruction of property;

4.2.2 a comprehensive general liability insurance policy providing coverage of at least **TWO MILLION ($2,000,000.00) DOLLARS** inclusive and in respect of any one claim for injury to or death of any one or more persons or damage to or destruction of property. Coverage to include:

a) non-owned automobiles;

b) independent subcontractors;

c) contractual liability including this Agreement.

4.2.3 Proposer's Compensation coverage for all employees, if any, engaged by the work in accordance with the laws of the Province of Alberta;

4.2.4 Employer's liability insurance respecting employees, if any, of the Proposer with limits of liability of not less than **TWO MILLION ($2,000,000.00) DOLLARS** per employee for each accident, accidental injury or death of an employee or any subcontractor engaged by the Proposer; and

4.2.5 such other insurance as the County may from time to time reasonably require.

The Proposer shall cause all insurance coverage maintained by the Proposer in accordance with this RFP, except for errors and omissions coverage (if required), to name the County and any other party designated by the County as an additional insured and to contain a severability of interests or cross liability clause. The Proposer shall cause all insurance coverage to provide that no such insurance policy may be cancelled without the insurer providing no less than thirty (30) days' written notice of such cancellation to the County. The Proposer shall, upon the request of the County, furnish written documentation, satisfactory to the County, evidencing the required insurance coverage. The cost of all of the insurance required to be held by the Proposer as set forth herein shall be borne by the Proposer.

5.0 EVALUATION

5.0 After the RFP Closing Time, the County will review and evaluate all the Proposals received based upon the information supplied by the Proposers in accordance with the submission requirements of this RFP.

5.1 In evaluating the Proposals received, the County will consider all of the criteria listed below in Section 5.2, and the County will have the sole and unfettered discretion to award up to the maximum number of points for each criteria as listed below. By submitting a Proposal, the Proposer acknowledges and agrees that the County has, and is hereby entitled to exercise, the sole and unfettered discretion to award the points for the evaluation of the noted criteria.

5.2 By submitting a Proposal, each Proposer acknowledges and agrees that it waives any right to contest in any legal proceedings the decision of the County to award points in respect of the criteria noted below (the "Evaluation Criteria"). Proposals will be evaluated based on the following criteria:

Evaluation Criteria	Weight	Score
Company/Project Team	25%	
Methodology/Timelines /Proposal Thoroughness	35%	
Proposal Cost (Fees and Disbursements)	40%	
TOTAL	**100%**	

The County may select a Proposer with the highest, or not necessarily the highest, Points with whom to negotiate the contract for the Study. Points will be assigned for each criterion based on the information provided in the Proposer's submission. Scoring will be consistently applied by the County's evaluation team using the specified scoring system noted below.

Points will be awarded on a scale of 0 to 10 as noted below:

Score	Description
0-2	**UNACCEPTABLE:** does not satisfy the requirements of the criterion in any way
3	**VERY POOR:** address some requirements but only minimally
4	**POOR:** addresses most of the requirements of the criterion but is lacking in critical areas
5	**MARGINAL:** barely meets most of the requirements of the criterion to a minimum acceptable level
6	**SATISFACTORY:** average capabilities and performance, and meets most of the requirements of the criterion
7	**ABOVE AVERAGE:** fully meets all the requirements of the criterion
8	**SUPERIOR:** exceeds the requirements of the criterion
9-10	**EXCEPTIONAL:** feature is clearly exceptional to the requirements of the criterion

5.3 The County also reserves the right to accept conditions to be offered by and/or negotiated with the successful Proposer which are not specifically contained in this RFP. Such options and/or alternatives shall be included in the Proposal review process as part of the evaluation.

5.4 At all times, the County reserves the right to seek written clarification regarding a Proposal from a Proposer. Such clarification shall be deemed an amendment to such Proposer's Proposal.

6.0 OTHER

6.1 Period Open for Consideration

The Proposals received shall remain irrevocable for a period of sixty (30) days following the RFP Closing Date to allow for the County to undertake the evaluation of the Proposals received and to undertake the negotiations as provided for herein.

6.2 Information Disclosure and Confidentiality

All documents submitted to the County will be subject to the protection and disclosure provisions of the *Freedom of Information and Protection of Privacy Act* ("FOIP"). FOIP allows persons a right of access to records in the County's custody or control. It also prohibits the County from disclosing the Proposer's personal or business information where disclosure would be harmful to the Proposer's business interests or would be an unreasonable invasion of personal privacy as defined in sections 16 and 17 of FOIP. Proposers are encouraged to identify what portions of their Proposals are confidential and what harm could reasonably be expected from its disclosure. However, the County cannot assure Proposers that any portion of the Proposals can be kept confidential under FOIP.

6.3 Independent Determination

A Proposal will not be considered by the County if it was not arrived at independently without collusion, consultation, communication or agreement as to any matter, such as prices, with any other Proposer.

6.4 Documents

All documents submitted by a Proposer shall become the property of the County upon being presented, submitted, or forwarded to the County. Should any documents be submitted electronically, notwithstanding the prohibition on same contained elsewhere in this RFP, then their content and the media they are contained in shall also become the property of the County upon their being presented, submitted or forwarded to the County.

6.5 Agreement on Internal Trade and New West Partnership Trade Agreement

The provisions of the Agreement on Internal Trade, Part IV, Chapter Five – Procurement and Annex 502.4, (“AIT”) and the New West Partnership Trade Agreement (“NWPTA”) apply to this Proposal.

6.6 Other Conditions

The Proposer is fully responsible for obtaining all information required for the preparation of its Proposal. The County is not responsible for undertaking any investigations to assist the Proposer.

6.7 Law and Forum of Proposal

The law to be applied in respect of this RFP shall be the law of the Province of Alberta and all civil actions commenced in relation to this RFP shall be adjudicated by the Courts of the Province of Alberta. By submitting a Proposal, the Proposer is deemed to have agreed to attorn to the jurisdiction of the Courts of the Province of Alberta.

Schedule “A”

Spring Lake Campground Electrical Servicing
PRICING FORM

Schedule "A"

PRICING FORM

REQUEST FOR PROPOSALS:
SADDLE HILLS COUNTY
SPRING LAKE CAMPGROUND ELECTRICAL SERVICING

We, _____
(Company)

of _____
(Business Address)

having examined the RFP Documents as issued by: Saddle Hills County (the "County"), and having visited and inspected the site(s) of where the Work is required to be undertaken; hereby offer to enter into a Contract to perform the Work required by the RFP Documents for the RFP Sum as follows:

1.	Supply Underground Electrical Conduit / Cable	$_____
2.	Trenching (and/or Boring) and Backfill	$_____
3.	Supply Switches, Panels, Pedestals, etc.	$_____
4.	Vehicle, Equipment, Mileage etc.	$_____
5.	Concrete	$_____
6.	Electrical Permits	$_____
	Sub-Total (excluding GST)	$_____
	GST	$_____
	Total	**$**_____
	Allowances (if any)	$_____

in Canadian funds, which price includes any specified cash and contingency allowances and the applicable taxes in force at this date and except as may be otherwise provided in the RFP Documents.

Please attach the detail breakdown of the price calculation.

Projected Project Duration and Date of Completion

Projected Duration ____ Weeks Projected Date of Completion _____

The Preference of the County is to have the underground work in Loop-A prioritized and completed first, to allow for partial use of the campground while subsequent work is performed, and above-ground components are completed.

Appendices to RFP Pricing Form:

Please append the mandatory information as specified on Section 4 of RFP.

The information required by the Instructions to Proposers is provided in the attached Appendices and forms an integral part of this RFP.

Declarations:

We hereby acknowledge and declare that:

(a) We have had the opportunity to review the drawings, visit the site, and examine existing site conditions;

(b) and we propose to perform the Work as set out in our Proposal;

(c) no person, firm or corporation other than the undersigned has any interest in this RFP or in the proposed Work for which this RFP is made;

(d) we hereby acknowledge and confirm that County has the right to accept any Proposal or to reject any or all Proposals in accordance with the Instructions to Proposers;

(e) this RFP is open to acceptance for a period of sixty (0) days from the date of RFP Closing.

Signatures:

Signed, sealed and submitted for and on behalf of:

Company: _____
(Name)

_____
(Street Address or Postal Box Number)

_____
(City, Province & Postal Code) *(Apply SEAL above)*

Signature: _____

Name & Title: _____
(Please Print or Type)

Witness: _____

Dated at _____ this _____ day of _____, 20___

Schedule “B”

Spring Lake Campground - Electrification

(Engineered Drawings & Specifications)

Provided as a separate document.

(2025 Spring Lake Campground Electrical - Dwgs.pdf)

SECTION 26 00 05 BASIC ELECTRICAL REQUIREMENTS

1. REGULATORY REQUIREMENTS
    1. COMPLY WITH SAFETY CODES ACT RULES AND REGULATIONS MADE PURSUANT THERETO, INCLUDING THE CANADIAN ELECTRICAL CODE.
    2. UNLESS OTHERWISE INDICATED, ALL REFERENCES TO "CANADIAN ELECTRICAL CODE" OR "CEC" SHALL MEAN THE EDITION OF THE CANADIAN ELECTRICAL CODE, PART I, CSA C22.1 AND THE VARIATIONS MADE THERETO BY ALBERTA REGULATIONS, WHICH ARE IN FORCE ON HE DATE OF BID CLOSING FOR THE CONTRACT.
    3. ALL ELECTRICAL PRODUCTS SHALL BE TESTED, CERTIFIED AND LABELED IN ACCORDANCE WITH A CERTIFICATION PROGRAM ACCREDITED BY THE STANDARDS COUNCIL OF CANADA. WHERE A PRODUCT IS NOT SO LABELED, PROVIDE WRITTEN APPROVAL BY THE AUTHORITY HAVING JURISDICTION.
    4. SUBMIT TO AUTHORITY HAVING JURISDICTION AND UTILITY COMPANY, NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR EXAMINATION AND APPROVAL PRIOR TO COMMENCEMENT OF ELECTRICAL WORK. PAY ASSOCIATED FEES.
    5. SUBMIT TO OWNER, COPY OF ELECTRICAL PERMIT OBTAINED FROM AUTHORITY HAVING JURISDICTION.
    6. IF AUTHORITY HAVING JURISDICTION CONDUCTS AN ELECTRICAL INSPECTION, SUBMIT COPY OF CERTIFICATE OF ACCEPTANCE PROVIDED BY AUTHORITY HAVING JURISDICTION.
2. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
    1. SUBMIT SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, AS SPECIFIED, INDICATING DETAILS OF CONSTRUCTION, DIMENSIONS, CAPACITIES, WEIGHTS AND ELECTRICAL PERFORMANCE CHARACTERISTICS OF EQUIPMENT AND MATERIALS.
    2. PROVIDE PRODUCT DATA FOR THE FOLLOWING:
        1. DISTRIBUTION EQUIPMENT
        2. LIGHT FIXTURES AND CONTROLS
        3. MOTOR CONTROLS
        4. FIRE ALARM PANEL AND COMPONENTS
        5. DATA EQUIPMENT AND CABLING
        6. OTHER ITEMS, AS REQUESTED BY OWNER.
3. OPERATION AND MAINTENANCE DATA
    1. PROVIDE THE FOLLOWING FOR ALL SYSTEMS AND COMPONENTS:
        1. MANUFACTURER'S PRODUCT DATA, INCLUDING PERFORMANCE CURVES AND SCHEMATICS AND WIRING DIAGRAMS FOR ALL ELECTRICAL CONTROL SYSTEMS.
        2. MANUFACTURER'S INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTION INCLUDING COMPLETE PARTS LIST FOR ALL SERVICEABLE COMPONENTS.
    2. PROVIDE A COMPREHENSIVE LIST OF SUBCONTRACTORS AND SUPPLIERS WHO SUPPLIED OR INSTALLED SYSTEMS AND COMPONENTS.
    3. PROVIDE COPIES OF ALL INSPECTION CERTIFICATION REPORTS FROM AUTHORITIES HAVING JURISDICTION.
4. RECORD DRAWINGS
    1. RECORD ACTUAL LOCATIONS OF ALL PULL BOXES, PANELBOARDS, LUMINARIES, FEEDERS, ELECTRICAL EQUIPMENT AND ELECTRICAL SITE SERVICES.
    2. RECORD ANY CHANGES TO CIRCUIT DESIGNATIONS.
5. COORDINATION
    1. COORDINATE WORK SPECIFIED IN DIVISION 26 WITH WORK SPECIFIED IN OTHER DIVISIONS. ENSURE THAT PROPER ARRANGEMENTS AND PROVISIONS ARE MADE FOR WORK SPECIFIED IN DIVISION 26.
6. SOURCE OF SUPPLY
    1. ALL LIKE MATERIALS SHALL BE BY A SINGLE MANUFACTURER.
7. REFERENCE STANDARDS
    1. COMPLY WITH STANDARDS OF FOLLOWING ORGANIZATIONS:
        1. ELECTRICAL AND ELECTRONIC EQUIPMENT MANUFACTURERS ASSOCIATION OF CANADA (EEMAC).
        2. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).
8. PRODUCT OPTIONS AND SUBSTITUTIONS
    1. ALTERNATIVE PRODUCTS MUST BE EQUIVALENT TO THOSE SPECIFIED AND REQUIRE PRIOR APPROVAL BY ENGINEER.
    2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHANGES TO THE WORK AND ANY ADDITIONAL COSTS ASSOCIATED WITH A SUBSTITUTION.
9. TESTING:
    1. PRIOR TO ENERGIZING ANY PORTION OF THE ELECTRICAL SYSTEM, PERFORM MEGGER TEST ON ALL PARTS OF THE DISTRIBUTION SYSTEM. RESULTS SHALL MEET THE REQUIREMENTS OF THE CEC, AUTHORITY HAVING JURISDICTION AND THE CONTRACT DOCUMENTS.
10. ELECTRICAL IDENTIFICATION
    1. COLOUR IDENTIFICATION OF EQUIPMENT
        1. ELECTRICAL EQUIPMENT SHALL BE PREFINISHED IN CODED COLOURS AS FOLLOWS:
            1. 120/208V, 277/480V OR 347/600V EQUIPMENT: GRAY
            2. FIRE ALARM SYSTEM EQUIPMENT: RED
            3. TELEPHONE CABINETS: GREEN
            4. BALLAST CABINETS: GREEN.
        2. WHERE IMPRACTICAL TO OBTAIN EQUIPMENT IN PREFINISHED COLOURS, EQUIPMENT MAY BE PAINTED ON SITE.
    2. NAMEPLATE IDENTIFICATION: IDENTIFY THE FOLLOWING EQUIPMENT WITH LAMICOID NAMEPLATES, 3MM THICK, BLACK FACE, WHITE CORE, MECHANICALLY ATTACHED, 20MM HIGH WITH 8MM HIGH LETTERS:
        1. PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS AND CONTACTORS
        2. TRANSFORMERS
        3. WIREWAYS
        4. LINE VOLTAGE CABINETS AND ENCLOSURES
        5. PULL AND JUNCTION BOX COVERS OVER 100MM IN SIZE.
    3. PANELBOARD DIRECTORIES: IDENTIFY LOADS CONTROLLED BY EACH OVERCURRENT PROTECTIVE DEVICE IN EACH PANELBOARD, BY MEANS OF A TYPEWRITTEN PANELBOARD DIRECTORY.
    4. COLOUR IDENTIFICATION OF CONDUIT AND CABLE: IDENTIFY ALL SYSTEMS, EXCEPT LINE VOLTAGE WITH PAINT OR COLOUR BANDING TAPE.
    5. IDENTIFICATION OF PULL AND JUNCTION BOXES: IDENTIFY BOXES FOR ALL SYSTEM, EXCEPT LINE VOLTAGE AS FOLLOWS:
        1. BOXES OVER 100MM IN SIZE; SPRAY PAINT INSIDE AND OUTSIDE OF BOXES IN CODED COLOURS.
        2. BOXES 100MM OR LESS IN SIZE; SPRAY PAINT INSIDE OF BOXES IN CODED COLOURS. APPLY PERMANENT IDENTIFYING MARKINGS DIRECTLY TO BOX COVERS USING INDELIBLE BLACK INK.
    6. COLOUR IDENTIFICATION OF WIRING:
        1. IDENTIFY NO. 4/0 AWG WIRING AND SMALLER BY CONTINUOUS INSULATION COLOUR.
        2. IDENTIFY WIRING LARGER THAN NO. 4/0 AWG BY CONTINUOUS INSULATION COLOUR OR BY COLOUR BANDING TAPE APPLIED AT EACH END AND AT SPLICES.
        3. COLOUR CODING SHALL BE IN ACCORDANCE WITH CANADIAN ELECTRICAL CODE.
        4. MAINTAIN PHASE SEQUENCE AND COLOUR CODING THROUGHOUT EACH SYSTEM.
    7. NAME/NUMBER IDENTIFICATION OF WIRING:
        1. IDENTIFY NO. 8 AWG WIRING AND SMALLER USING ONE OF THE FOLLOWING MATERIALS:
            1. HEAT SHRINK SLEEVES, BLANK.
            2. CLEAR PLASTIC TAPE WRAP-ON STRIPS WITH WHITE WRITING SECTION.
            3. WRAP-ON STRIPS, PRE-NUMBERED.
            4. SLIP-ON IDENTIFICATION BEAD MARKERS OR SLEEVES, BLANK OR PRE-NUMBERED.
        2. TYPE OR PRINT ON BLANK WIRE IDENTIFICATION MATERIALS USING INDELIBLE BLACK INK.
        3. IDENTIFY WIRING AT ALL PULL BOXES, JUNCTION BOXES, AND OUTLET BOXES FOR ALL SYSTEMS.
        4. IDENTIFY EACH CONDUCTOR AS TO PANEL AND CIRCUIT, TERMINAL, TERMINAL NUMBERS, SYSTEM NUMBER SCHEME, AND POLARIZATION, AS APPLICABLE.

SECTION 26 05 01 BASIC ELECTRICAL MATERIALS AND METHODS

1\. GENERAL

NOT USED.

2\. PRODUCTS

2.1 CONDUIT

1. PROVIDE CONDUIT OF TYPES AND SIZES INDICATED. WHERE SIZES ARE NOT INDICATED, SELECT PROPER SIZES TO SUIT INTENDED USE, FULFIL WIRING REQUIREMENTS, AND COMPLY WITH CEC.
2. EMT: TO CSA C22.2 NO. 86-M1985. PROVIDE RAIN-TIGHT FITTINGS IN WEATHERPROOF AND DAMP AREAS.
3. RIGID METAL: TO CSA C22.2 NO. 45-M1981
4. RIGID PVC (UNPLACIZED): TO CSA C22.2 NO. 211.2-M1984.
5. FLEXIBLE METAL CONDUIT: TO CSA C22.2 NO. 56-1977.
6. POLYETHYLENE PIPE: TO CSA B137.1-95, MINIMUM SERIES 75.
7. FLEXIBLE PLASTIC UNDERGROUND POWER CABLE DUCTING: TO CSA C22.2 NO. 211.1 1984

2.2 WIRE AND CABLE

1. BUILDING WIRING: TO CSA C22.2 NO. 75-M1983, COPPER CONDUCTOR, 600 V RW90 X-LINK. USE IN ALL LOCATIONS, EXCEPT FOR UNDERGROUND WIRE WHICH SHALL BE RW90 X-LINK -40°C OR TWU75 -40°C
2. WIRE SIZING: CEC EXCEPT WHERE OTHERWISE INDICATED. MINIMUM WIRE SIZE SHALL BE #12 AWG
3. DO NOT USE METALLIC OR NON-METALLIC SHEATHED CABLES OR WIRE WITH ALUMINUM CONDUCTORS EXCEPT WHERE OTHERWISE INDICATED.
4. ARMOURED CABLE: TO CSA C22.2 NO. 51-95. USE ONLY FOR FINAL CONNECTIONS TO LUMINAIRES IN LENGTHS NOT EXCEEDING 1.5 M AND FOR RUNS CONCEALED IN METAL OR WOOD FRAME PARTITIONS CONTAINING ONLY ONE CIRCUIT.

2.3 BOXES AND FITTINGS

1. PROVIDE BOXES AND FITTINGS SUITABLE FOR INTENDED USE AND AREA INSTALLED AND AS FOLLOWS:
    1. OUTLET BOXES: TO CSA C22.2 NO. 18-92. SHEET STEEL, GALVANIZED FOR CONCEALED BOXES AND CAST METAL FOR SURFACE AND WEATHERPROOF BOXES.
        1. PULL AND JUNCTION BOXES: TO CSA C22.2 NO. 40-M1989. SHEET STEEL WITH SCREW-ON COVERS AND BARRIERS AS REQUIRED.
        2. BUSHINGS, KNOCKOUT CLOSURES, AND LOCKNUTS: TO CSA C22.2 NO. 18-92.

2.4 WIRING DEVICES

1. COMMERCIAL GRADE AND AS FOLLOWS:
    1. SWITCHES: TO CSA C22.2 NO. 111-M1986, TOGGLE TYPE, 15 A, 125 V, FULL LOAD RATED, WHITE COLOUR.
    2. RECEPTACLES: TO CSA C22.2 NO. 42-M1984, DUPLEX, 15 A, 125 V, U-GROUND, WHITE COLOUR.
    3. COVER PLATES: UNBREAKABLE NYLON, COLOUR TO MATCH DEVICE, IN FINISHED AREAS, STAMPED SHEET STEEL IN UNFINISHED AREAS, AND CAST OR POLYCARBONATE, GASKETED, IN WET AREAS.

2.5 DISCONNECTS

1. UNFUSED DISCONNECTS: TO CAN/CSA-C22.2 NO. 4 - M89 AND AS FOLLOWS:
    1. POLES, VOLTAGE, AMPERAGE, KW RATING AND ENCLOSURE: AS INDICATED ON DRAWINGS OR SCHEDULES; IF NOT INDICATED, SELECT DISCONNECT TO SUIT APPLICATION.
    2. TYPE: GENERAL DUTY.
2. OPERATION: LEVER HANDLE, CAPABLE OF BEING LOCKED IN "ON" OR "OFF" POSITION.
3. FUSED DISCONNECTS: TO CSA C22.2 NO. 39-M1987 AND AS FOLLOWS:
    1. SAME AS UNFUSED EXCEPT COMPLETE WITH FUSE HOLDERS.

2.5 ENCLOSURES

1. CABINETS AND ENCLOSURES: TO CSA C22.2 NO. 40-M1989, AND AS FOLLOWS:
    1. INTERIOR CABINETS: EEMAC-1 SHEET STEEL WITH HINGED COVER, FLUSH LOCK AND LATCH.
    2. BACKBOARDS: 19 MM GIS PLYWOOD, AS INDICATED ON DRAWINGS, PAINTED GRAY.
    3. EXTERIOR ENCLOSURES: EEMAC-3R INSULATED SHEET STEEL WITH HINGED DOORS, HASP AND LOCK, DRIP LID, MOUNTING POSTS AND ELECTRIC HEATER AS INDICATED ON DRAWINGS.

2.6 GROUNDING EQUIPMENT

1. GROUNDING EQUIPMENT: TO CSA C22.2 NO. 41-M1987 AND AS FOLLOWS:
    1. GROUND RODS: 20 MM X 3 M, COPPER CLAD STEEL.
    2. CONDUCTORS: COPPER, STRANDED, BARE OR INSULATED AS INDICATED.
2. COMPRESSION TYPE BOLT-ON IN ALL LOCATIONS EXCEPT FOR GROUND RODS WHICH SHALL BE BOLTED TYPES.

2.7 SUPPORTING DEVICES

1. PROVIDE METAL BRACKETS, FRAMES, CLAMPS, CHANNELS, STRAPS AND RELATED DEVICES TO ADEQUATELY SUPPORT WEIGHT OF EQUIPMENT AND RACEWAYS.

3\. EXECUTION

3.1 CONDUIT

1. EXCEPT WHERE OTHERWISE INDICATED, INSTALL ALL WIRING IN CONDUIT.
2. WHERE PRACTICABLE, INSTALL CONDUIT CONCEALED IN WALLS, FLOORS, CEILINGS ABOVE SUSPENDED CEILINGS AND UNDERGROUND.
3. INSTALL CONDUIT PARALLEL OR AT RIGHT ANGLES TO BUILDING LINES; MINIMIZE CROSSOVERS, CONSERVE SPACE AND HEADROOM.

3.2 BOXES

1. INSTALL BOXES FLUSH WHERE PRACTICABLE AND FOR VERTICAL MOUNTING OF DEVICES. INSTALL TO NEAREST COURSE LINE IN MASONRY WALLS.
2. EXCEPT WHERE OTHERWISE INDICATED, MOUNT BOXES AT HEIGHTS SHOWN ON TYPICAL MOUNTING HEIGHT DETAIL.
3. OWNER MAY CHANGE LOCATION OF OUTLETS PRIOR TO INSTALLATION, WITH NO CHANGE IN CONTRACT PRICE, PROVIDED THAT DISTANCE DOES NOT EXCEED 2 M FROM ORIGINALLY INDICATED LOCATION
4. RECEPTACLES MOUNTED ON THE EXTERIOR FACE OF THE BUILDING SHALL HAVE JUNCTION BOXES RECESSED INTO BUILDING FACE. SURFACE MOUNTED BOXES WILL NOT BE ACCEPTED. COORDINATE WITH OTHER TRADES FOR FINISHING DETAILS.

3.3 WIRING DEVICES

1. INSTALL DEVICES AND COVERS FLUSH AND LEVEL.
2. ENSURE OUTLET BOXES ARE CLEAN PRIOR TO INSTALLING DEVICES.

3.4 GROUNDING

1. INSTALL COMPLETE PERMANENT GROUNDING SYSTEM INCLUDING ELECTRODES, CONDUCTORS, CONNECTORS AND ACCESSORIES AS DESCRIBED IN SPECIFICATIONS AND INDICATED ON DRAWINGS.
2. INSTALL SEPARATE INSULATED GROUND CONDUCTOR IN CONDUIT RUNS INSTALLED IN CONCRETE WHICH IS SUBJECT TO MOISTURE PENETRATION OR UNDERGROUND.
3. BOND ALL METAL PARTS OF BUILDING STRUCTURE AND MECHANICAL EQUIPMENT INCLUDING PIPING SYSTEM TO GROUND.

3.5 SUPPORTS

1. DO NOT FASTEN SUPPORTS TO PIPING, DUCTWORK OR MECHANICAL EQUIPMENT.

3.6 CONDUIT SCHEDULE

CONDUIT TYPE	LOCATIONS
RIGID METAL	WHERE EXPOSED AND SUBJECT TO MECHANICAL DAMAGE AND IN AREAS DESIGNATED AS HAZARDOUS.
RIGID PVC (UNPLASTICIZED)	UNDERGROUND, CORROSIVE AREAS, CONCRETE SLABS ON GRADE OR EXPOSED TO MOISTURE.
FLEXIBLE METAL	CONNECTIONS TO LUMINAIRES, MOTORS AND SUBJECT TO VIBRATION.
POLYETHYLENE PIPE OR FLEXIBLE PLASTIC U.G. PWR CBL DUCT	MECHANICAL PROTECTION OF DIRECT BURIED CONDUCTORS.
EMT	ALL OTHER LOCATIONS, EXCEPT WHERE OTHERWISE INDICATED ON DRAWINGS OR REQUIRED BY CEC.

SECTION 26 08 10 ELECTRICAL STARTING AND TESTING

1\. GENERAL

1.1 INTENT

1. ARRANGE AND PAY FOR THE TESTING AND RELATED REQUIREMENTS SPECIFIED IN THIS SECTION.
2. IF TEST RESULTS DO NOT CONFORM WITH APPLICABLE REQUIREMENTS, REPAIR, REPLACE, OR ADJUST OR BALANCE EQUIPMENT AND SYSTEMS. REPEAT TESTING AS NECESSARY UNTIL ACCEPTABLE RESULTS ARE ACHIEVED.

1.2 STARTING AND TESTING - GENERAL

1. ENSURE ALL ELECTRICAL EQUIPMENT IS CLEANED AND FREE OF DUST BEFORE AND AFTER TESTING.
2. ASSUME ALL COSTS AND LIABILITIES ASSOCIATED WITH STARTING, TESTING, ADJUSTING AND BALANCING, INCLUDING SUPPLY OF TESTING EQUIPMENT AND WITNESSING OF FACTORY TESTING BY CONTRACTOR AND OWNER.

1.3 MANUFACTURER'S STARTING RECOMMENDATIONS

1. ARRANGE AND PAY FOR QUALIFIED MANUFACTURER'S AND SUPPLIER'S STARTING PERSONNEL WHERE REQUIRED TO MAINTAIN VALIDITY OF MANUFACTURER'S WARRANTY.

1.4 CONTRACTOR AND MANUFACTURER REPORTS

1. LOG AND TABULATE TEST RESULTS IN A NEAT AND ORGANIZED MANNER AND SUBMIT TO ENGINEER AFTER TESTS ARE PERFORMED.

1.5 COORDINATION

1. COORDINATE STARTING OF ELECTRICAL EQUIPMENT AND SYSTEMS WITH TESTING, DEMONSTRATION AND INSTRUCTION OF ELECTRICAL AND EQUIPMENT AND SYSTEMS.

1.6 IMPLEMENTATION

1. PERFORM ALL TESTING AND RELATED REQUIREMENTS SPECIFIED HEREIN PRIOR TO INTERIM ACCEPTANCE OF THE WORK.

2\. PRODUCTS

2.1 TEST EQUIPMENT

1. PROVIDE ALL EQUIPMENT AND TOOLS NECESSARY TO PERFORM TESTING SPECIFIED AND AS OTHERWISE REQUIRED.

3\. EXECUTION

3.1 BASIC ELECTRICAL START-UP AND TESTING

1. PRIOR TO ENERGIZING MAIN ELECTRICAL SYSTEM:
    1. VERIFY SUPPLY AUTHORITY VOLTAGE AND PHASE ROTATION.
    2. TORQUE ALL BUS CONNECTIONS TO MANUFACTURERS REQUIREMENTS AND SEAL WITH LACQUER.
    3. MEGGER ALL FEEDERS AND RECORD RESULTS ON APPROVED TEST REPORT FORMS.
2. TESTING OF WIRING AND WIRING DEVICES:
    1. TEST CONDUCTORS AT DISTRIBUTION CENTRES AND PANELBOARDS FOR INSULATION RESISTANCE TO GROUND (MEGGER TEST).
    2. TEST SERVICE GROUNDING CONDUCTORS FOR GROUND RESISTANCE.
    3. TEST ALL WIRING DEVICES FOR CORRECT OPERATION AND CIRCUITRY.
3. GROUND RESISTANCE TESTING:
    1. MEASURE GROUND RESISTANCE OF GROUND GRIDS WITH EARTH TEST MEGGER TO VERIFY COMPLIANCE WITH CSA C22.2 NO. 0.4-M1982 AND CANADIAN ELECTRICAL CODE.
4. LOAD BALANCE TESTING:
    1. PERFORM LOAD TESTS WITH AS MANY BUILDING LOADS ON AS POSSIBLE PRIOR TO INTERIM ACCEPTANCE.
    2. TEST LOAD BALANCE ON ALL FEEDERS AT DISTRIBUTION CENTRES, MOTOR CONTROL CENTRES AND LIGHTING PANELBOARDS.
    3. IF LOAD UNBALANCE EXCEEDS 15%, RECONNECT CIRCUITS TO BALANCE LOADS. REVISE PANELBOARD DIRECTORIES AND WIRING IDENTIFICATION ACCORDINGLY.
5. STARTING MOTORS:
    1. PRIOR TO STARTING MOTORS:
        1. CONFIRM MOTOR NAMEPLATE DATA WITH MOTOR STARTER HEATER OVERLOADS, SETTING OF MCP'S AND SIZING OF FUSES.
        2. VERIFY ROTATION.
        3. ENSURE DISCONNECTS ARE INSTALLED.
        4. CONFIRM LABELING OF MOTORS, DISCONNECTS AND STARTERS.
    2. MEASURE AND RECORD OPERATING LOAD AMP READINGS FOR ALL THREE PHASE MOTORS.

3.2 LIGHTING

1. FUNCTION TEST ALL LIGHT SWITCHES, LUMINAIRES, DIMMERS AND LIGHTING CONTROL EQUIPMENT SUCH AS PHOTO-CELLS AND TIME CLOCK SETTINGS.
2. CHECK OPERATION OF ALL BATTERY OPERATED EMERGENCY LIGHTING UNITS, EXIT LIGHTS AND CONNECTION OF EXIT LIGHTS TO EMERGENCY LIGHTING UNITS AS SPECIFIED.
3. RECORD ALL PHOTO-CELL AND TIME-CLOCK SETTINGS.

SECTION 26 18 16 OVERCURRENT PROTECTIVE DEVICES

1\. GENERAL

1.1 PRODUCT DATA

1. IN ADDITION TO REQUIREMENTS OF SECTION 26 00 05, PROVIDE THE FOLLOWING INFORMATION:
    1. TIME CURRENT CHARACTERISTIC CURVES FOR ALL CIRCUIT BREAKER OVERLOAD, OVERCURRENT AND GROUND CURRENT TRIPPING DEVICES ON FULL SIZE (280MM X 432MM) LOG-LOG TIME/CURRENT GRAPH PAPER.
    2. FAULT INTERRUPTING CAPABILITY OF EACH DEVICE IN SYMMETRICAL AMPERES AT APPLIED VOLTAGE.
    3. MOTOR CONTROL OVERCURRENT PROTECTIVE DEVICE CHARACTERISTICS AND CURVES.
    4. CURRENT LIMITING LET-THROUGH INFORMATION FOR HRC FUSES IN GRAPH FORM.
    5. MINIMUM MELTING AND MAXIMUM CLEARING TIME/CURRENT CURVES FOR HRC FUSES.

2\. PRODUCTS

2.1 MOULDED CASE CIRCUIT BREAKERS

1. TO CAN/CSA-C22.2 NO 5.1-M91 AND AS FOLLOWS:
    1. TRIP TYPE: THERMAL MAGNETIC
    2. VOLTAGE AND POLES: AS INDICATED IN SCHEDULES.
    3. INTERRUPTING CAPACITY: TO MATCH PANELBOARD, MINIMUM 10,000A SYMMETRICAL.
    4. MOUNTING: BOLT-IN.
    5. NORMAL OPERATION: IN 40°C AMBIENT.
    6. FEATURES:
        1. THERMAL AND INSTANTANEOUS MAGNETIC TRIP.
        2. TRIP FREE, TOGGLE TYPE OPERATION.
        3. QUICK-MAKE, QUICK-BREAK ACTION.
        4. POSITIVE HANDLE TRIP INDICATION.
        5. TRIP RATING VISIBLE WITH PANEL TRIM INSTALLED.

2.2 SOLID STATE TRIP MOULDED CASE CIRCUIT BREAKERS

1. VOLTAGE, POLES: AS INDICATED IN SCHEDULES
2. INTERRUPTING CAPACITY: AS INDICATED ON DRAWINGS.
3. CONSTRUCTION: BOLT-IN
4. NORMAL OPERATION: IN 40°C AMBIENT.
5. BREAKER FRAME: MOULDED CASE BREAKER DESIGN.
6. SENSOR UNIT:
    1. TYPE: SOLID STATE ELECTRONIC SENSOR POWERED FROM CURRENT MONITOR SOURCE.
    2. CALIBRATION: VISIBLE IDENTIFIED TRIP ADJUSTMENT / CALIBRATION FROM FRONT OF BREAKER.
    3. TRIP ACTUATION: VISUAL ON/OFF
    4. ADJUSTMENTS:
        1. LONG DELAY PICKUP AND TIME.
        2. SHORT DELAY PICKUP AND TIME.
        3. INSTANTANEOUS TRIP.
        4. GROUND FAULT PICKUP AND DELAY TIME.

2.3 FUSES

1. PLUG AND CARTRIDGE STANDARD FUSES: TO CSA-C22.2 NO 59.1M1987 AND AS FOLLOWS:
    1. STANDARD FUSE INTERRUPTING RATINGS: MIN. 10 KA SYM.
    2. HRC FUSES: TO CAN/CSA-C22.2 NO. 106-M92 AND AS FOLLOWS:
        1. HRC FUSE INTERRUPTING RATINGS: 200 KA SYMMETRICAL
        2. HRC FUSE TYPES:
            1. HRCI-J - GENERAL PURPOSE
            2. HRCI-L - FEEDERS AND SERVICE ENTRANCE EQUIPMENT
            3. HRCII-C - MOTOR PROTECTION
    3. VOLTAGE AND AMPACITY AS INDICATED ON DRAWINGS.

3\. EXECUTION

3.1 INSTALLATION

1. INSTALL OVERCURRENT PROTECTIVE DEVICES AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. FASTEN OVERCURRENT PROTECTIVE DEVICES WITHOUT CAUSING MECHANICAL STRESSES, TWISTING OR MISALIGNMENT OF EQUIPMENT IN FINAL POSITIONS.

1\. SET FIELD-ADJUSTABLE TRIP SETTINGS AS INDICATED SUBSEQUENT TO INSTALLATION.

3.2 TESTING AND ADJUSTING

1. COMPLY WITH REQUIREMENTS OF SECTION 26 08 10.

SECTION 26 24 05 SERVICE AND DISTRIBUTION

1\. GENERAL

NOT USED.

2\. PRODUCTS

2.1 SERVICE

1. UNDERGROUND SERVICE: PROVIDE RIGID CONDUIT AND WIRE OF SIZE, AMPERAGE, VOLTAGE AND PHASE AS INDICATED ON DRAWINGS. RUN FROM MAIN DISCONNECT TO 1M BELOW GRADE AS INDICATED ON DRAWINGS.
2. COORDINATE WITH UTILITY FOR PROVISION AND CONNECTION OF SERVICE.

2.2 METERING

1. METER BASE: AMPERAGE, VOLTAGE, PHASES AND WIRES AS INDICATED ON DRAWINGS AND TO SUIT UTILITIES REQUIREMENTS.

2.3 SERVICE EQUIPMENT

1. MAIN DISCONNECT: HEAVY DUTY FUSED DISCONNECT SUITABLE FOR SERVICE ENTRANCE IN EEMAC 1 ENCLOSURE, AMPERAGE, POLES, VOLTAGE, PHASE AND WIRES AS INDICATED ON DRAWINGS AND IN SECTION 26 28 17

2.4 MOTOR CONTROL

1. MAGNETIC STARTERS: SIZES, VOLTAGES AND PHASES TO SUIT MOTORS AND AS INDICATED ON DRAWINGS COMPLETE WITH:
    1. ENCLOSURE: EEMAC 1
    2. DISCONNECT: NON-FUSED SWITCH
    3. OVERLOADS: ONE THERMAL TYPE PER PHASE, ONE N.O. ALARM CONTACT
    4. COIL: 120V WITH CONTROL TRANSFORMER
2. AUXILIARY DEVICES: PILOT LIGHT, TWO CONVERTIBLE AUXILIARY CONTACTS, HAND-OFF-AUTO SELECTOR SWITCH, PUSH BUTTON RESET.
3. MANUAL STARTERS: TOGGLE TYPE, COMPLETE WITH PILOT LIGHT, ONE OVERLOAD PER PHASE, ENCLOSURE AND POLES TO SUIT MOTORS AND AS INDICATED ON DRAWINGS.

3\. EXECUTION

3.1 SERVICE

1. CONNECT MAIN DISCONNECT TO METER BASE WITH CONDUIT AND WIRE AS INDICATED ON THE DRAWINGS.
2. PROVIDE MAIN ELECTRICAL GROUND CONNECTION FROM NEUTRAL BAR OF SERVICE DISCONNECT TO GROUND GRID AS INDICATED ON DRAWINGS.

3.2 CONNECTION OF MOTORIZED EQUIPMENT

1. CONNECT FOLLOWING ITEMS OF MOTORIZED EQUIPMENT SPECIFIED IN OTHER DIVISIONS:
    1. ROOFTOP AIR HANDLING UNITS.
    2. AIR CONDITIONING COMPRESSORS AND CONDENSERS.
    3. EXHAUST FANS, UNIT HEATERS AND DAMPER MOTORS.
    4. PUMPS.
    5. CIRCULATING FANS.
2. OVERHEAD DOOR OPERATORS.
3. MAKE FINAL CONNECTIONS TO ALL MOTORS USING LIQUID TIGHT FLEXIBLE CONDUIT AND CONNECTORS.

3.3 CONNECTION OF NON-MOTORIZED EQUIPMENT

1. CONNECT FOLLOWING ITEMS OF NON-MOTORIZED EQUIPMENT SPECIFIED IN OTHER DIVISIONS:
    1. AIR HANDLING UNIT CONTROL PANEL.
    2. ELECTRIC WATER HEATERS.
    3. BOILERS.
    4. ELECTRIC FORCE FLOW HEATERS.

SECTION 26 24 17 PANELBOARDS

1\. GENERAL

NOT USED.

2\. PRODUCTS

2.1 PANELBOARDS:

1. PANELBOARDS: TO CSA C22.2 NO 29-M1989 AND AS FOLLOWS:
    1. BUS CHARACTERISTICS:
        1. COPPER SILVER/TIN PLATED.
        2. BRACING: AS NOTED ON DRAWINGS.
        3. NEUTRAL: FULL CAPACITY, SOLID NEUTRAL
        4. GROUND BUS: COPPER
    2. ENCLOSURE: PRE-FINISHED PAINTED SHEET STEEL COMPLETE WITH DRIP COVER IN SPRINKLER BUILDINGS.
    3. TRIM: DOOR-ON-DOOR CONSTRUCTION, CONCEALED HINGES AND MOUNTING SCREWS, HINGED LOCKING DOOR AND FLUSH CATCH, 2 KEYS PER PANEL.
    4. OVERCURRENT PROTECTIVE DEVICES: BOLT-IN AS SPECIFIED IN SECTION 26 18 16.

2.2 PANELBOARDS FOR SERVICE ENTRANCE

1. PANELBOARDS FOR SERVICE ENTRANCE: AS SPECIFIED UNDER "PANELBOARDS" WITH THE FOLLOWING ADDITIONAL FEATURES:
    1. MAIN BREAKER: AS SPECIFIED IN SECTION 26 18 16, MOUNTED IN SEPARATE BARRIERED COMPARTMENT, CSA APPROVED FOR SERVICE ENTRANCE APPLICATION.

3\. EXECUTION

3.1 INSTALLATION

1. INSTALL PANELBOARDS SECURELY, PLUMB AND SQUARE TO ADJOINING SURFACES.
2. INSTALL PANELBOARDS FLUSH OR SURFACE AS INDICATED.
3. MOUNT PANELBOARDS AT HEIGHTS SHOWN IN TYPICAL MOUNTING HEIGHT DETAIL.
4. NUMBER OF BREAKERS AND SIZES SPECIFIED IN SCHEDULES.
    1. INSTALL TWO SPARE 21MM CONDUIT STUBBED UP INTO ACCESSIBLE CEILING SPACE FOR FLUSH PANELBOARDS.

SECTION 26 50 20 LIGHTING

1\. GENERAL

1.1 COORDINATION

1. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS BETWEEN LUMINAIRES, SUPPORTS AND FITTINGS AND MECHANICAL EQUIPMENT.

2\. PRODUCTS

2.1 LAMPS:

1. PROVIDE ALL LUMINAIRES COMPLETE WITH LAMPS OR TUBES.
2. INCANDESCENT LAMPS
    1. 2000 HOUR, CLEAR TYPE WHERE INSIDE A DIFFUSER, FROSTED TYPE WHERE EXPOSED.
3. FLUORESCENT LAMPS:
    1. TYPE: AS INDICATED.
    2. EFFICIENCY: 90 LUMENS/WATT
    3. COLOUR RENDERING INDEX: >80
    4. COLOUR TEMPERATURE: 3500°K
    5. RATED LIFE: > 20,000 HOURS
4. H.I.D. LAMPS
    1. EFFICIENCY: >80 LUMENS/WATT
    2. CLEAR INSIDE LENSED FIXTURES, COATED WHERE EXPOSED.
    3. RATED LIFE:
        1. UNDER 400W - OVER 10,000 HOURS
        2. 400W - OVER 20,000 HOURS
        3. OVER 400W - OVER 12,000 HOURS
5. LED LAMPS
    1. EFFICIENCY: 90 LUMENS/WATT TESTED TO LM-79
    2. COLOUR RENDERING INDEX: >80
    3. COLOUR TEMPERATURE: AS INDICATED
    4. RATED LIFE: 50,000 HOURS TESTED TO LM-80

2.2 BALLASTS AND DRIVERS

1. FLUORESCENT BALLASTS:
    1. INTERIOR: SOLID STATE ELECTRONIC, AUTOMATIC RESET, THERMAL PROTECTION WITH 95% POWER FACTOR, GROUP A NOISE RATING, <10% THD, RAPID START.
    2. UTILIZE TWO LAMP BALLASTS WHEREVER POSSIBLE.
    3. EXTERIOR BALLASTS TO PROVIDE RELIABLE STARTING TO -30°C
2. H.I.D. BALLASTS:
    1. 90% POWER FACTOR, CONSTANT WATTAGE, AUTOTRANSFORMER TYPE WITH MINIMUM 1.6 CURRENT CREST FACTOR.
    2. EXTERIOR BALLASTS TO PROVIDE RELIABLE STARTING TO -30°C.
3. LED DRIVERS:
    1. RATED FOR MINIMUM 50,000 HOURS, 90% POWER FACTOR, <10% THD.

2.3 EMERGENCY LIGHTING:

1. EMERGENCY LIGHTING EQUIPMENT: TO CSA C22.2 NO. 141-M1985 AS SHOWN ON SCHEDULES.

2.4 LIGHTING CONTROLS:

1. PROVIDE SWITCHES, PHOTOELECTRIC CONTROLS, TIMERS AND RELAYS FOR LIGHTING CIRCUITS AND LUMINAIRES AS INDICATED ON DRAWINGS.

3\. EXECUTION

3.1 INSTALLATION

1. PROVIDE ADEQUATE SUPPORT FOR LUMINAIRES. USE CHAIN OR RODS FOR SUSPENDED LUMINAIRES. DO NOT SUPPORT LUMINAIRES OVER 5KG IN WEIGHT FROM OUTLET BOXES.
2. COORDINATE LUMINAIRE INSTALLATION WITH ARCHITECTURAL DETAILS, REFLECTED CEILING PLANS AND MECHANICAL EQUIPMENT. INSTALL ACCURATELY IN LINE AND LEVEL, TO PRESENT A NEAT APPEARANCE AND AVOID CONFLICTS.
3. MOUNT PHOTOCELLS ABOVE ROOF LINES AND ORIENT TO FACE NORTH. ADJUST SENSITIVITY FOR UNDER TEN LUX.
4. CLEAN ALL LUMINAIRES TO REMOVE CONSTRUCTION DUST AND DEBRIS PRIOR TO INTERIM ACCEPTANCE OF THE WORK.

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APEGA PERMIT NUMBER: 3581

RM. Signature:

RM. APEGA ID:

Date of Validation:

REVISION SCHEDULE

ISSUED FOR:	REVISION	DATE
90% CLIENT REVIEW	A	2023.09.21
100% CLIENT REVIEW	B	2023.11.29
100% CLIENT REVIEW	C	2024.10.03
100% CLIENT REVIEW	D	2024.10.23
CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
SPECIFICATIONS

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN

SPA PROJECT NUMBER: 23-107

DRAWING NUMBER: E0.1
REVISION: 1

LEGEND

GENERAL

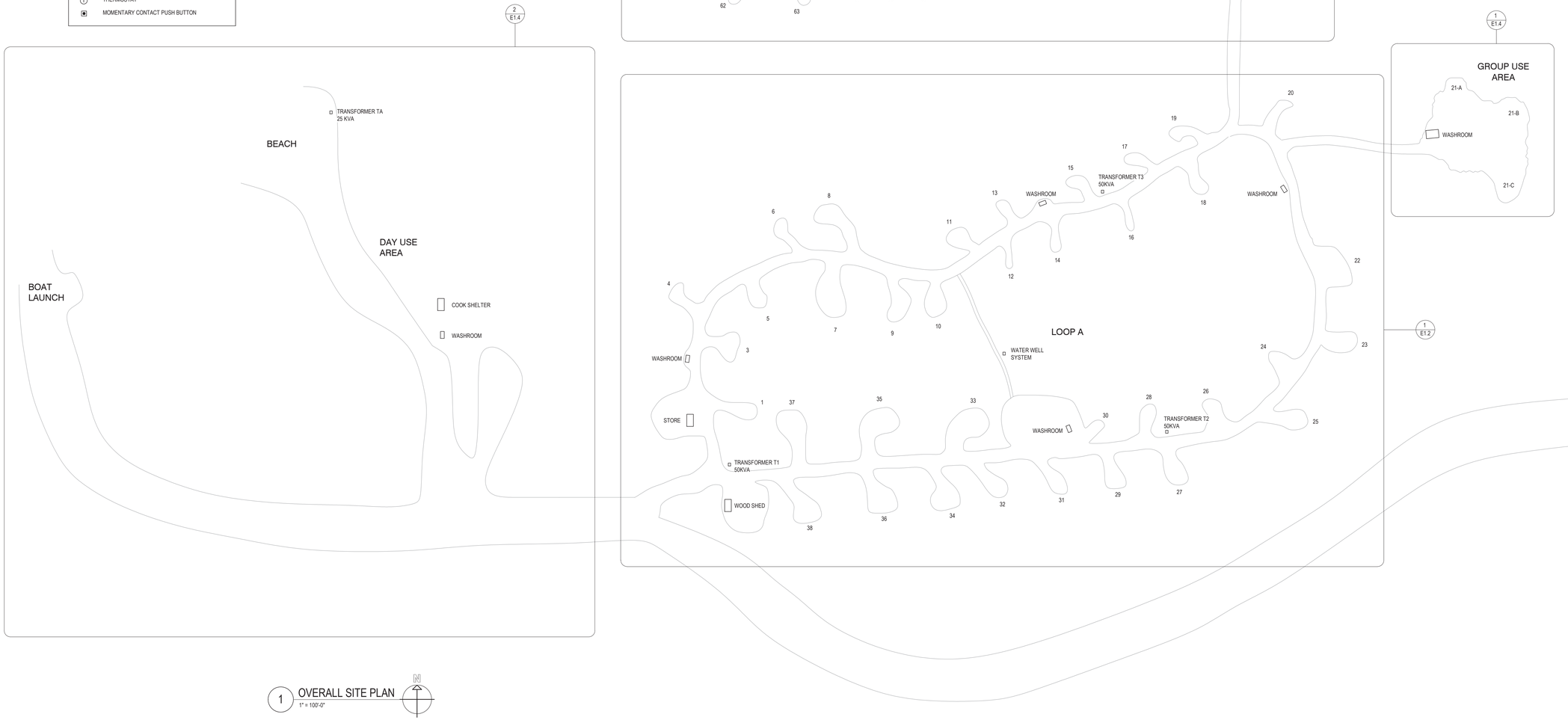
###	DEVICE DESCRIPTION TAG
A-#	PANEL AND CIRCUIT NUMBER
1	KEYNOTE
REL	DEVICE / EQUIPMENT TO BE RELOCATED
DEL	DEVICE / EQUIPMENT TO BE DEMOLISHED

POWER

	RECEPTACLE, DUPLEX
	RECEPTACLE, ISOLATED GROUND
	RECEPTACLE, DEDICATED
	RECEPTACLE, SPLIT
	RECEPTACLE, T-SLOT
	RECEPTACLE, T-SLOT SPLIT
	RECEPTACLE, SPECIAL
	DIRECT CONNECTION WHERE XX DENOTES: GFI GROUND FAULT INTERRUPT MW MICROWAVE OC OVER COUNTER UC UNDER COUNTER WP WEATHER PROOF
	PEDESTAL RECEPTACLE

DISTRIBUTION

	DISTRIBUTION PANEL, SURFACE
	DISTRIBUTION PANEL, RECESSED
	DISCONNECT SWITCH, UNFUSED
	DISCONNECT SWITCH, FUSED
	CONTACTOR
	DISCONNECT SWITCH & STARTER
M	MOTOR
M	MOTOR WITH DISCONNECT SWITCH
J	JUNCTION BOX
T	THERMOSTAT
	MOMENTARY CONTACT PUSH BUTTON



1 OVERALL SITE PLAN
1" = 100'-0"

spa ENGINEERING
Scheunhage Popek & Associates
STRUCTURAL | MECHANICAL | ELECTRICAL

ISSUED FOR COSTRUCTION

NOTES

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THIS DRAWING SUPERSEDES PREVIOUS ISSUES.

PROFESSIONAL AUTHENTICATION:

PROFESSIONAL ENGINEER ALBERTA TREVOR S. NORTHEY

APEGA PERMIT
No. P03581
Mem. # 117434

APEGA ID:

Date of Authentication: October 24, 2024

RESPONSIBLE MEMBER VERIFICATION:
PERMIT TO PRACTICE
SCHEUNHAGE POPEK & ASSOCIATE LTD.
APEGA PERMIT NUMBER: 3581

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CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
OVERALL SITEPLAN

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN
SPA PROJECT NUMBER:			23-107

DRAWING NUMBER:	REVISION:
E1.1	1

GENERAL NOTES

1. ALL MATERIALS USED DURING CONSTRUCTION SHALL BE NEW.
2. ALL ELECTRICAL INSTALLATIONS TO BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS IN EFFECT.
3. ELECTRICAL CONTRACTOR TO ADHERE TO APPRENTICESHIP AND INDUSTRY TRAINING ACT.
4. CONTRACTOR MUST COORDINATE WITH ENGINEER SITE INSPECTIONS AS REQUIRED. MINIMUM OF ONE INSPECTION DURING THE ROUGH-IN STAGE OF CONSTRUCTION AND ONE AFTER SUBSTANTIAL COMPLETION.
5. COORDINATE ANY CONFLICTING WORK WITH THE USER GROUP AND OTHER TRADES.
6. ELECTRICAL BOXES MOUNTED ON DEMISING AND EXTERIOR WALLS SHALL HAVE VAPOUR CAPS.
7. MINIMUM FEEDER WIRE SIZE USED SHALL BE #12 AWG.
8. COORDINATE ELECTRICAL REQUIREMENTS OF ALL OWNER SUPPLIED EQUIPMENT ON SITE.
9. CONTRACTORS, TRADE CONTRACTORS, SUB-CONTRACTORS AND INSTALLERS SHALL ENSURE ALL EXTERIOR FINISHES, VENEERS AND/OR FACADES ARE CONSTRUCTED AND/OR INSTALLED UTILIZING RAINSCREEN TECHNOLOGY IN ACCORDANCE WITH NRC CNRC CONSTRUCTION TECHNOLOGY UPDATE NO. 34.
   THE CONTRACTOR, TRADE CONTRACTORS, SUB-CONTRACTORS AND INSTALLERS SHALL SUBMIT INSTALLATION AND/OR ERECTION DRAWINGS TO THE CONSULTANT INDICATING THE RAINSCREEN PROTECTION FOR REVIEW PRIOR TO INSTALLATION. THE CONSULTANT DOES NOT APPROVE, WARRANTEE OR GUARANTEE THE INSTALLATION OF ANY EXTERIOR BUILDING OR BUILDING ENVELOP COMPONENT THAT DOES NOT MAINTAIN RAINSCREEN TECHNOLOGY.
10. INSTALLATION IS TO BE COMPLETED USING TRENCHING WHERE POSSIBLE. ALLOW FOR SOME DIRECTIONAL DRILLING TO GET ACROSS AREAS THAT TRENCHING WILL NOT BE APPLICABLE. KEEP MAIN ROAD CROSSINGS TO A MINIMUM.
11. WIRING SHALL BE RATED FOR DIRECT BURIAL UNLESS OTHERWISE STATED.

PEDESTAL NOTES

1. PEDESTAL TO BE ACE MANUFACTURING OR EQUIVALENT.
2. PEDESTAL TO BE AN ACE PAR3G THAT HAS INTEGRAL 30A AND 20A BREAKERS, 30A RECEPTACLE AND 20A GFCI RECEPTACLE.
3. LUGS WITHIN PEDESTAL ARE TO BE SIZED TO ACCOMODATE WIRE SIZES AS SHOWN.
4. PEDESTAL TO COME COMPLETE WITH DIRECT BURIAL MOUNT.
5. LOCATE PEDESTALS AS SHOWN IN TYPICAL SITE PEDESTAL LAYOUT DETAIL ON DRAWING E2.1. TYPICAL FOR ALL PEDESTALS.

PANEL NOTES

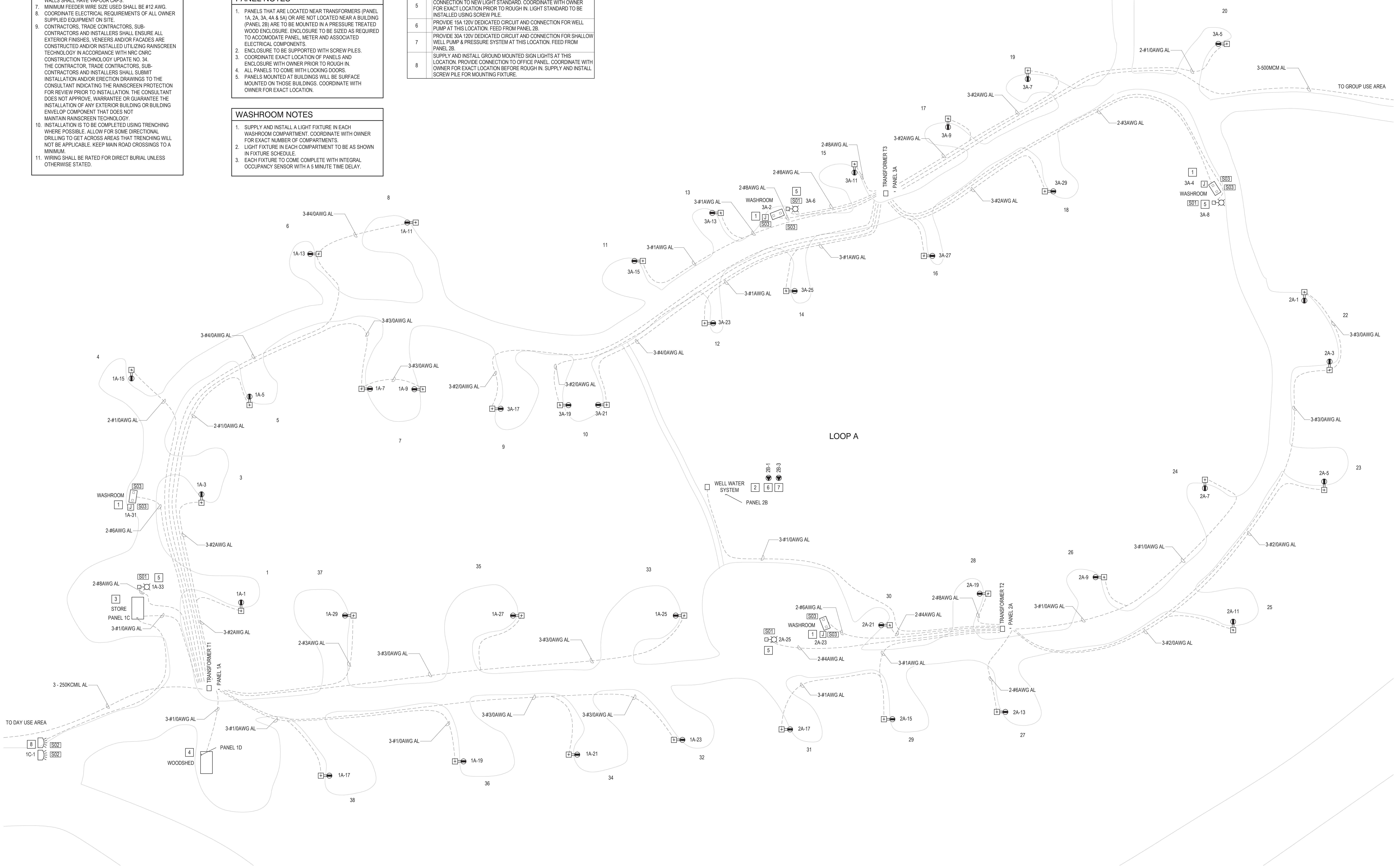
1. PANELS THAT ARE LOCATED NEAR TRANSFORMERS (PANEL 1A, 2A, 3A, 4A & 5A) OR ARE NOT LOCATED NEAR A BUILDING (PANEL 2B) ARE TO BE MOUNTED IN A PRESSURE TREATED WOOD ENCLOSURE. ENCLOSURE TO BE SIZED AS REQUIRED TO ACCOMODATE PANEL, METER AND ASSOCIATED ELECTRICAL COMPONENTS.
2. ENCLOSURE TO BE SUPPORTED WITH SCREW PILES.
3. COORDINATE EXACT LOCATION OF PANELS AND ENCLOSURE WITH OWNER PRIOR TO ROUGH IN.
4. ALL PANELS TO COME WITH LOCKING DOORS.
5. PANELS MOUNTED AT BUILDINGS WILL BE SURFACE MOUNTED ON THOSE BUILDINGS. COORDINATE WITH OWNER FOR EXACT LOCATION.

WASHROOM NOTES

1. SUPPLY AND INSTALL A LIGHT FIXTURE IN EACH WASHROOM COMPARTMENT. COORDINATE WITH OWNER FOR EXACT NUMBER OF COMPARTMENTS.
2. LIGHT FIXTURE IN EACH COMPARTMENT TO BE AS SHOWN IN FIXTURE SCHEDULE.
3. EACH FIXTURE TO COME COMPLETE WITH INTEGRAL OCCUPANCY SENSOR WITH A 5 MINUTE TIME DELAY.

E1.2 KEYNOTES

1		PROVIDE CONNECTION TO WASHROOM LIGHTING. PROVIDE ONE FIXTURE ON EACH SIDE OF WASHROOM. FIXTURE TO BE A SURFACE MOUNT TYPE. COORDINATE WITH OWNER FOR REQUIREMENTS PRIOR TO ROUGH IN. REFER TO WASHROOM NOTES FOR FURTHER INFORMATION.
2		SUPPLY AND INSTALL PANEL AT THIS LOCATION. PROVIDE CONNECTION TO WELL WATER PANEL. COORDINATE WITH OWNER FOR REQUIREMENTS PRIOR TO ROUGH IN.
3		SUPPLY AND INSTALL PANEL AT THIS LOCATION. PROVIDE CONNECTION TO STORE PANEL. COORDINATE WITH OWNER FOR EXACT LOCATION AND REQUIREMENTS BEFORE ROUGH IN.
4		SUPPLY AND INSTALL PANEL AT THIS LOCATION. PROVIDE CONNECTION TO WOODSHED PANEL. COORDINATE WITH OWNER FOR EXACT LOCATION AND REQUIREMENTS BEFORE ROUGH IN.
5		SUPPLY AND INSTALL LIGHT STANDARD AT THIS LOCATION. PROVIDE CONNECTION TO NEW LIGHT STANDARD. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH IN. LIGHT STANDARD TO BE INSTALLED USING SCREW PILE.
6		PROVIDE 15A 120V DEDICATED CIRCUIT AND CONNECTION FOR WELL PUMP AT THIS LOCATION. FEED FROM PANEL 2B.
7		PROVIDE 30A 120V DEDICATED CIRCUIT AND CONNECTION FOR SHALLOW WELL PUMP & PRESSURE SYSTEM AT THIS LOCATION. FEED FROM PANEL 2B.
8		SUPPLY AND INSTALL GROUND MOUNTED SIGN LIGHTS AT THIS LOCATION. PROVIDE CONNECTION TO OFFICE PANEL. COORDINATE WITH OWNER FOR EXACT LOCATION BEFORE ROUGH IN. SUPPLY AND INSTALL SCREW PILE FOR MOUNTING FIXTURE.



1 LOOP A
1" = 50'-0"

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ISSUED FOR COSTRUCTION

NOTES

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PROFESSIONAL AUTHENTICATION:

PROFESSIONAL ENGINEER TREVOR S. NORTH ALBERTA

APEGA PERMIT
No. P03581
Mem. # 117434
October 24, 2024

APEGA ID:

Date of Authentication:

RESPONSIBLE MEMBER VERIFICATION:
PERMIT TO PRACTICE
SCHEUNHAGE POPEK & ASSOCIATE LTD.
APEGA PERMIT NUMBER: 3581

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CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

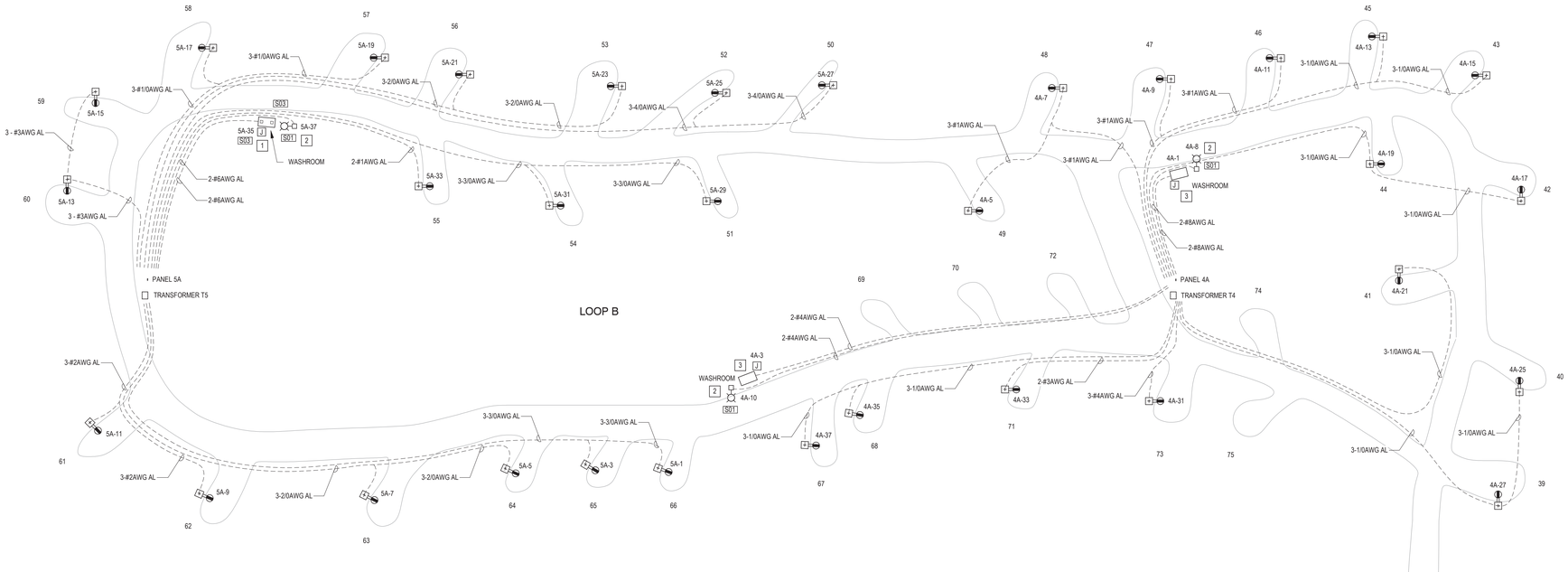
SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
LOOP A

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN
SPA PROJECT NUMBER:			23-107

DRAWING NUMBER: E1.2
REVISION: 1

E1.3 KEYNOTES	
1	PROVIDE CONNECTION TO WASHROOM LIGHTING. PROVIDE ONE FIXTURE ON EACH SIDE OF WASHROOM. FIXTURE TO BE A SURFACE MOUNT TYPE. COORDINATE WITH OWNER FOR REQUIREMENTS PRIOR TO ROUGH IN. REFER TO WASHROOM NOTES FOR FURTHER INFORMATION.
2	SUPPLY AND INSTALL LIGHT STANDARD AT THIS LOCATION. PROVIDE CONNECTION TO NEW LIGHT STANDARD. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH IN. LIGHT STANDARD TO BE INSTALLED USING SCREW PILE.
3	PROVIDE CONNECTION TO WASHROOM LIGHTING. FIXTURES IN THIS WASHROOM ARE EXISTING. THERE IS ONE FIXTURE ON EACH SIDE OF WASHROOM. FIXTURES ARE SURFACE MOUNT TYPE. COORDINATE WITH OWNER FOR REQUIREMENTS PRIOR TO ROUGH IN. REFER TO WASHROOM NOTES FOR FURTHER INFORMATION.



1 LOOP B
1" = 50'-0"

ISSUED FOR COSTRUCTION

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PROFESSIONAL ENGINEER ALBERTA TREVOR S. HOWITT

APEGA PERMIT
No. P03581
Mem. # 117434

APEGA ID:
Date of Authentication: October 24, 2024

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APEGA PERMIT NUMBER: 3581

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CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

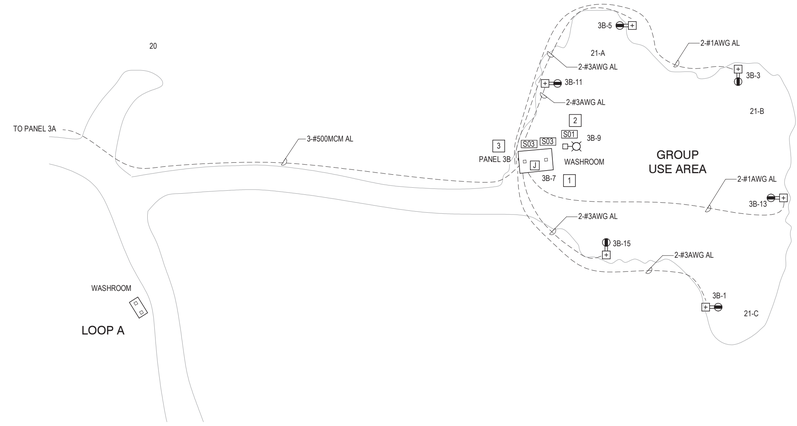
PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

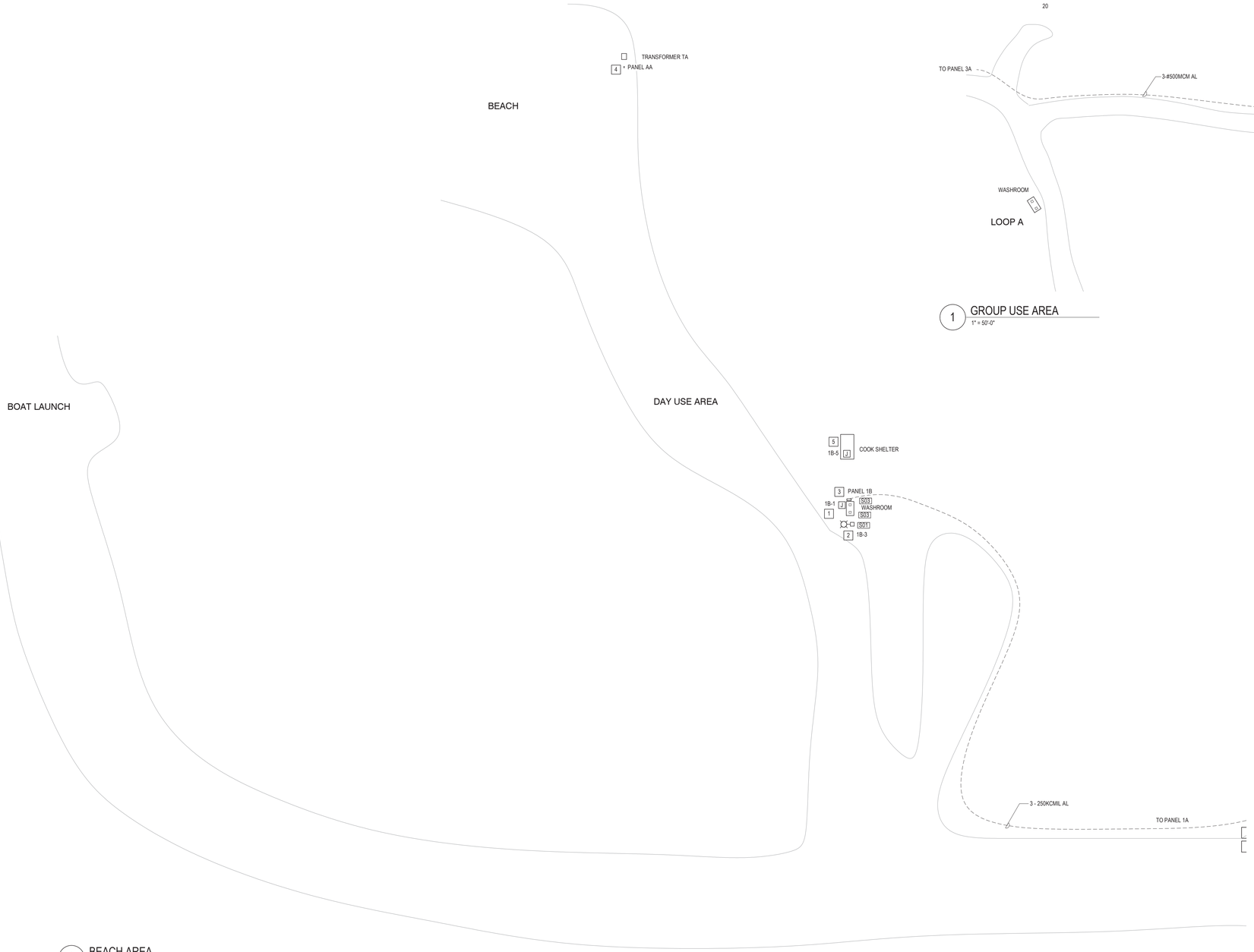
DRAWING:
LOOP B

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN
SPA PROJECT NUMBER:			23-107

DRAWING NUMBER:	REVISION:
E1.3	1



1 GROUP USE AREA
1" = 50'-0"



2 BEACH AREA
1" = 50'-0"

E1.4 KEYNOTES	
1	PROVIDE CONNECTION TO WASHROOM LIGHTING. PROVIDE ONE FIXTURE ON EACH SIDE OF WASHROOM. FIXTURE TO BE A SURFACE MOUNT TYPE. COORDINATE WITH OWNER FOR REQUIREMENTS PRIOR TO ROUGH IN. REFER TO WASHROOM NOTES FOR FURTHER INFORMATION.
2	SUPPLY AND INSTALL LIGHT STANDARD AT THIS LOCATION. PROVIDE CONNECTION TO NEW LIGHT STANDARD. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH IN. LIGHT STANDARD TO BE INSTALLED USING SCREW PILE.
3	PROVIDE NEW PANEL AT THIS LOCATION. PANEL TO BE WEATHERPROOF. MOUNT ON EXTERIOR OF EXISTING WASHROOM.
4	PANEL AA WILL BE SUPPLIED AND INSTALLED BY THE ALBERTA CONSERVATON ASSOCIATION.
5	PROVIDE CONNECTION TO COOK SHELTER LIGHTING. COORDINATE WITH OWNER FOR REQUIREMENTS PRIOR TO ROUGH IN. REFER TO COOK SHELTER NOTES FOR FURTHER INFORMATION.

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APEGA PERMIT
No. P03581
Mem. # 117434

APEGA ID:
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CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

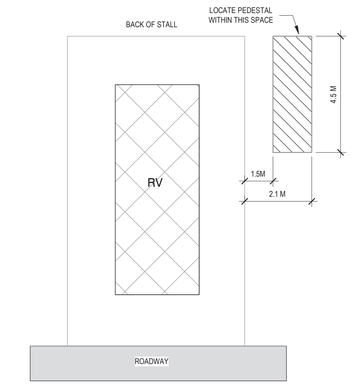
SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
GROUP USE AREA AND BEACH AREA

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN

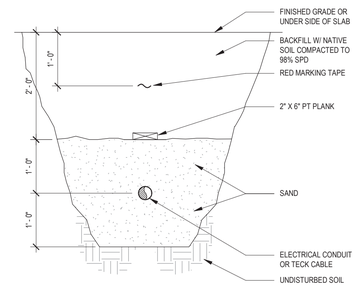
SPA PROJECT NUMBER: 23-107

DRAWING NUMBER: E1.4
REVISION: 1



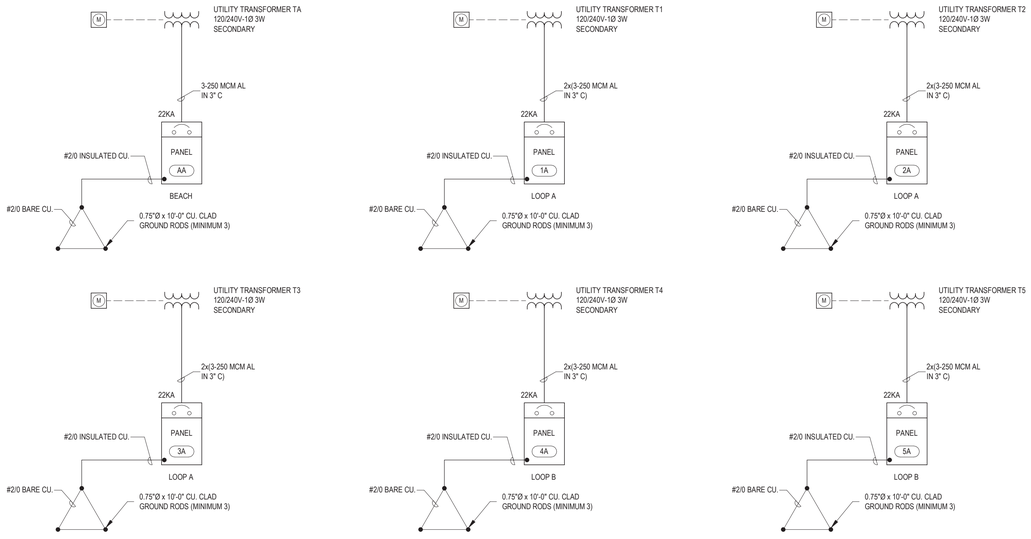
NOTES:
1. PEDESTAL TO BE PLACED AS SHOWN AS REQUIRED BY CEC 72-112.

1 TYPICAL SITE PEDESTAL LAYOUT
NTS



NOTES:
1. SEE SINGLE LINE DIAGRAM AND TELEPHONE TERMINAL BOARD DETAIL FOR CONDUIT SIZES.

4 UNDERGROUND CONDUIT & CABLE INSTALLATION
NTS



NOTES:
1. PROVIDE PERMANENT LAMICOID LABEL ON ALL DISTRIBUTION EQUIPMENT.
2. COMPLY WITH ATCO ELECTRICS "CUSTOMER METERING AND SERVICE" REQUIREMENTS.
3. SEE SPECIFICATIONS FOR FURTHER DISTRIBUTION EQUIPMENT RATINGS.
4. COORDINATE EXACT LOCATION OF NEW SERVICE EQUIPMENT ON SITE.
5. PROVIDE METERING AT TRANSFORMER.
6. PANELS AA, 1A, 2A, 3A 4A & 5A ARE TO BE RATED FOR SERVICE ENTRANCE.

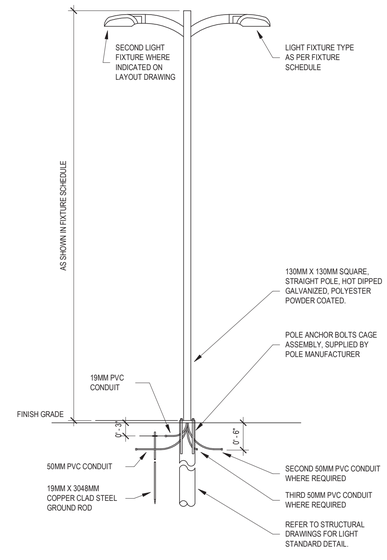
GROUNDING NOTES:
1. DISTRIBUTION PANELS ARE TO BE BONDED TO MAIN PANEL GROUND.

2 ELECTRICAL ONE-LINE DIAGRAM
NTS

LIGHTING FIXTURE SCHEDULE

TAG	DESCRIPTION	SIZE	TYPE	LUMENS	WATT.	CT	VOLT.	MANUFACTURER	MODEL	MOUNTING	COMMENTS	COUNT
S01	POLE MOUNTED FIXTURE		LED	7400 lm	75 W	4000 K	120 V	LUMARK LIGHTING	LDRV-T3-F03	POLE MOUNT ON 20' POLE.	FIXTURE TO COME COMPLETE WITH INTEGRAL PHOTOCELL. FIXTURE TO BE MOUNTED ON SCREW PILE.	9
S02	EXTERIOR FLOODLIGHT		LED	2700 lm	21 W	4000 K	120 V	LITHONIA LIGHTING	DSXF1-P1-40K-WFL	GROUND MOUNT	WIDE FLOOD DISTRIBUTION, BLACK FINISH, INTEGRAL PHOTOCELL	2
S03	SURFACE FLAT PANEL LED	24" x 24"	LED-50SL	3200 lm	30 W	3500 K	120 V	LITHONIA LIGHTING	CPX2X2AL0780CRISWW7	SURFACE	C/W INFRARED OCCUPANCY SENSOR & SURFACE MOUNT KIT (2X2SMKSH)	14

NOTES:
1. ANY ALTERNATE FIXTURES TO THE ONES LISTED ABOVE ARE SUBJECT TO APPROVAL BY THE ENGINEER.
2. NUMBER OF LAMPS REFERS TO LAMPS PER CROSS SECTION.
3. MOUNT LIGHTS AT HEIGHTS SPECIFIED UNLESS OTHERWISE NOTED.
4. WATTAGE IS FOR INFORMATION PURPOSES ONLY . ALTERNATE FIXTURES SHALL MATCH LUMEN OUTPUT.
5. CONTRACTOR TO CONFIRM FIXTURE COUNTS WITH DRAWINGS.



3 LIGHT STANDARD
NTS

spa ENGINEERING
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STRUCTURAL I MECHANICAL I ELECTRICAL

ISSUED FOR COSTRUCTION

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APEGA PERMIT
No. P03581

APEGA ID: Mem. # 117434

Date of Authentication: October 24, 2024

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APEGA PERMIT NUMBER: 3581

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CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
SCHEDULES & DETAILS

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN

SPA PROJECT NUMBER: 23-107

DRAWING NUMBER: E2.1

REVISION: 1

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
1A	120/240 V	1Ø-3W	400 A	MCB	20,000	SURFACE	NEMA 3R	
	LOCATION				MANUFACTURER		MODEL NUMBER	
	LOOP A				SQUARE D		NQ	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	RV PEDESTAL	30 A	1	3600	21			2	100 A	STORE PANEL 1C	2
3	RV PEDESTAL	30 A	1			3600	0	--	--	--	4
5	RV PEDESTAL	30 A	1	3600	0			2	100 A	WOODSHED PANEL 1D	6
7	RV PEDESTAL	30 A	1			3600	0	--	--	--	8
9	RV PEDESTAL	30 A	1	3600	2000			2	60 A	DAY USE AREA PANEL 1B	10
11	RV PEDESTAL	30 A	1			3600	75	--	--	--	12
13	RV PEDESTAL	30 A	1	3600							14
15	RV PEDESTAL	30 A	1			3600					16
17	RV PEDESTAL	30 A	1	3600							18
19	RV PEDESTAL	30 A	1			3600					20
21	RV PEDESTAL	30 A	1	3600							22
23	RV PEDESTAL	30 A	1			3600					24
25	RV PEDESTAL	30 A	1	3600							26
27	RV PEDESTAL	30 A	1			3600					28
29	RV PEDESTAL	30 A	1	3600							30
31	WASHROOM	15 A	1			1000					32
33	LIGHTING	15 A	1	75							34
35											36
37	SPARE	15 A	1	0	0			1	20 A	SPARE	38
39	SPARE	15 A	1			0	0	1	20 A	SPARE	40
41	SPARE	15 A	1	0	0			1	20 A	SPARE	42
		TOTAL LOAD		30896 VA		26275 VA					
		TOTAL AMPS		257 A		219 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	3000 VA	100.00%	3000 VA		
LIGHTING	171 VA	125.00%	214 VA	TOTAL CONNECTED LOAD (VA)	57171 VA
RV PEDESTAL	54000 VA	96.00%	51840 VA	TOTAL CONNECTED LOAD (A)	238 A
				TOTAL ESTIMATED DEMAND (VA)	**55054 VA**
				TOTAL ESTIMATED DEMAND (A)	**229 A**

NOTES

PANEL TO BE WEATHERPROOF

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
1B	120/240 V	1Ø-3W	100 A	MCB	10,000	SURFACE	NEMA 3R	1A
	LOCATION				MANUFACTURER		MODEL NUMBER	
	DAY USE AREA				SQUARE D		QO	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	WASHROOM LIGHTING	15 A	1	1000							2
3	LIGHTING, DAY USE AREA	15 A	1			75					4
5	LIGHTING, COOK HOUSE	15 A	1	1000							6
7											8
9											10
11											12
13											14
15											16
17											18
19											20
21											22
23											24
25	SPARE	15 A	1	0	0			1	20 A	SPARE	26
27	SPARE	15 A	1			0	0	1	20 A	SPARE	28
29	SPARE	15 A	1	0	0			1	20 A	SPARE	30
		TOTAL LOAD		2000 VA		75 VA					
		TOTAL AMPS		17 A		1 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	2000 VA	100.00%	2000 VA		
LIGHTING	75 VA	125.00%	94 VA	TOTAL CONNECTED LOAD (VA)	2075 VA
				TOTAL CONNECTED LOAD (A)	9 A
				TOTAL ESTIMATED DEMAND (VA)	**2094 VA**
				TOTAL ESTIMATED DEMAND (A)	**9 A**

NOTES

PANEL TO BE WEATHERPROOF

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
1C	120/240 V	1Ø-3W	225 A	MCB	10,000	SURFACE	NEMA 1	1A
	LOCATION				MANUFACTURER		MODEL NUMBER	
	STORE				SQUARE D		QO	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	LIGHTING, SIGN	15 A	1	21							2
3											4
5											6
7											8
9											10
11											12
13											14
15											16
17											18
19											20
21											22
23	SPARE	15 A	1			0	0	1	20 A	SPARE	24
25	SPARE	15 A	1	0	0			1	20 A	SPARE	26
27	SPARE	15 A	1			0	0	1	20 A	SPARE	28
29	SPARE	15 A	1	0	0			1	20 A	SPARE	30
		TOTAL LOAD		21 VA		0 VA					
		TOTAL AMPS		0 A		0 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
LIGHTING	21 VA	125.00%	26 VA		
				TOTAL CONNECTED LOAD (VA)	21 VA
				TOTAL CONNECTED LOAD (A)	0 A
				TOTAL ESTIMATED DEMAND (VA)	**26 VA**
				TOTAL ESTIMATED DEMAND (A)	**0 A**

NOTES

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
1D	120/240 V	1Ø-3W	225 A	MCB	10,000	SURFACE	NEMA 3R	1A
	LOCATION				MANUFACTURER		MODEL NUMBER	
	WOOD SHED				SQUARE D		QO	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1											2
3											4
5											6
7											8
9											10
11											12
13											14
15											16
17											18
19											20
21											22
23	SPARE	15 A	1			0	0	1	20 A	SPARE	24
25	SPARE	15 A	1	0	0			1	20 A	SPARE	26
27	SPARE	15 A	1			0	0	1	20 A	SPARE	28
29	SPARE	15 A	1	0	0			1	20 A	SPARE	30
		TOTAL LOAD		0 VA		0 VA					
		TOTAL AMPS		0 A		0 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD (VA)	0 VA
				TOTAL CONNECTED LOAD (A)	0 A
				TOTAL ESTIMATED DEMAND (VA)	**0 VA**
				TOTAL ESTIMATED DEMAND (A)	**0 A**

NOTES

PANEL TO BE WEATHERPROOF

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
2A	120/240 V	1Ø-3W	400 A	MCB	20,000	SURFACE	NEMA 3R	
	LOCATION				MANUFACTURER		MODEL NUMBER	
	LOOP A				SQUARE D		NQ	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	RV PEDESTAL	30 A	1	3600	1000			2	30 A	WATER WELL PANEL	2
3	RV PEDESTAL	30 A	1			3600	1000	--	--	--	4
5	RV PEDESTAL	30 A	1	3600							6
7	RV PEDESTAL	30 A	1			3600					8
9	RV PEDESTAL	30 A	1	3600							10
11	RV PEDESTAL	30 A	1			3600					12
13	RV PEDESTAL	30 A	1	3600							14
15	RV PEDESTAL	30 A	1			3600					16
17	RV PEDESTAL	30 A	1	3600							18
19	RV PEDESTAL	30 A	1			3600					20
21	RV PEDESTAL	30 A	1	3600							22
23	WASHROOM	15 A	1			1000					24
25	LIGHTING	15 A	1	75							26
27											28
29											30
31											32
33											34
35											36
37	SPARE	15 A	1	0	0			1	20 A	SPARE	38
39	SPARE	15 A	1			0	0	1	20 A	SPARE	40
41	SPARE	15 A	1	0	0			1	20 A	SPARE	42
		TOTAL LOAD		22675 VA		20000 VA					
		TOTAL AMPS		189 A		167 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	1000 VA	100.00%	1000 VA		
LIGHTING	75 VA	125.00%	94 VA	TOTAL CONNECTED LOAD (VA)	42675 VA
RECEPTACLES	2000 VA	100.00%	2000 VA	TOTAL CONNECTED LOAD (A)	178 A
RV PEDESTAL	39600 VA	98.18%	38880 VA		
				TOTAL ESTIMATED DEMAND (VA)	**41974 VA**
				TOTAL ESTIMATED DEMAND (A)	**175 A**

NOTES

PANEL TO BE WEATHERPROOF

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
2B	120/240 V	1Ø-3W	225 A	MCB	10,000	SURFACE	NEMA 3R	2A
	LOCATION				MANUFACTURER		MODEL NUMBER	
	WATER WELL				SQUARE D		QO	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	DEEP WELL PUMP	15 A	1	1000							2
3	SHALLOW WELL PUMP	30 A	1			1000					4
5											6
7											8
9											10
11											12
13											14
15											16
17											18
19											20
21											22
23	SPARE	15 A	1			0	0	1	20 A	SPARE	24
25	SPARE	15 A	1	0	0			1	20 A	SPARE	26
27	SPARE	15 A	1			0	0	1	20 A	SPARE	28
29	SPARE	15 A	1	0	0			1	20 A	SPARE	30
		TOTAL LOAD		1000 VA		1000 VA					
		TOTAL AMPS		8 A		8 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
RECEPTACLES	2000 VA	100.00%	2000 VA		
				TOTAL CONNECTED LOAD (VA)	2000 VA
				TOTAL CONNECTED LOAD (A)	8 A
				TOTAL ESTIMATED DEMAND (VA)	**2000 VA**
				TOTAL ESTIMATED DEMAND (A)	**8 A**

NOTES

PANEL TO BE WEATHERPROOF

spa ENGINEERING
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ISSUED FOR COSTRUCTION

NOTES

DO NOT SCALE THIS DRAWING. REFER TO GIVEN DIMENSIONS.

REPORT ANY DISCREPANCIES OR OMISSIONS TO THE CONSULTANT IMMEDIATELY. FAILURE TO DO SO SHALL NOT BE GROUNDS FOR ADDITIONAL WORK.

IN THE CASE OF A DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS, DRAWINGS OF LARGER SCALE SHALL GOVERN OVER THOSE OF SMALLER SCALE, - SPECIFICATIONS SHALL GOVERN OVER DRAWINGS.

THESE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION UNTIL EITHER SEALED OR ADVISED IN WRITING BY THE CONSULTANT.

THIS DRAWING SUPERSEDES PREVIOUS ISSUES.

PROFESSIONAL AUTHENTICATION:

PROFESSIONAL ENGINEER ALBERTA PROVINCE OF ALBERTA

APEGA PERMIT No. P03581

APEGA ID: Mem. # 117434

Date of Authentication: October 24, 2024

RESPONSIBLE MEMBER VERIFICATION:
PERMIT TO PRACTICE
SCHEUNHAGE POPEK & ASSOCIATE LTD.
APEGA PERMIT NUMBER: 3581

RM. Signature:

RM. APEGA ID:

Date of Validation:

REVISION SCHEDULE

ISSUED FOR:	REVISION	DATE
90% CLIENT REVIEW	A	2023.09.21
100% CLIENT REVIEW	B	2023.11.29
100% CLIENT REVIEW	C	2024.10.03
100% CLIENT REVIEW	D	2024.10.23
CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
PANEL SCHEDULES

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN

SPA PROJECT NUMBER: 23-107

DRAWING NUMBER:	REVISION:
E2.2	1

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
3A	120/240 V	1Ø-3W	400 A	MCB	20,000	SURFACE	NEMA 3R	
	LOCATION				MANUFACTURER		MODEL NUMBER	
	LOOP A				SQUARE D		NQ	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	PANEL 3B	60 A	2	10875	1000			1	15 A	WASHROOM	2
3	--	--	--			11800	1000	1	15 A	WASHROOM	4
5	RV PEDESTAL	30 A	1	3600	75			1	15 A	LIGHTING	6
7	RV PEDESTAL	30 A	1			3600	75	1	15 A	LIGHTING	8
9	RV PEDESTAL	30 A	1	3600							10
11	RV PEDESTAL	30 A	1			3600					12
13	RV PEDESTAL	30 A	1	3600							14
15	RV PEDESTAL	30 A	1			3600					16
17	RV PEDESTAL	30 A	1	3600							18
19	RV PEDESTAL	30 A	1			3600					20
21	RV PEDESTAL	30 A	1	3600							22
23	RV PEDESTAL	30 A	1			3600					24
25	RV PEDESTAL	30 A	1	3600							26
27	RV PEDESTAL	30 A	1			3600					28
29	RV PEDESTAL	30 A	1	3600							30
31											32
33											34
35											36
37	SPARE	15 A	1	0	0			1	20 A	SPARE	38
39	SPARE	15 A	1			0	0	1	20 A	SPARE	40
41	SPARE	15 A	1	0	0			1	20 A	SPARE	42
		TOTAL LOAD		37150 VA		34475 VA					
		TOTAL AMPS		310 A		287 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	3000 VA	100.00%	3000 VA		
LIGHTING	225 VA	125.00%	281 VA	TOTAL CONNECTED LOAD (VA)	71625 VA
RV PEDESTAL	68400 VA	92.63%	63360 VA	TOTAL CONNECTED LOAD (A)	298 A
				TOTAL ESTIMATED DEMAND (VA)	**66641 VA**
				TOTAL ESTIMATED DEMAND (A)	**278 A**

NOTES
PANEL TO BE WEATHERPROOF

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
3B	120/240 V	1Ø-3W	100 A	MCB	10,000	SURFACE	NEMA 3R	3A
	LOCATION				MANUFACTURER		MODEL NUMBER	
	GROUP AREA				SQUARE D		QO	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	RV PEDESTAL	30 A	1	3600							2
3	RV PEDESTAL	30 A	1			3600					4
5	RV PEDESTAL	30 A	1	3600							6
7	WASHROOM	15 A	1			1000					8
9	LIGHTING	15 A	1	75							10
11	RV PEDESTAL	30 A	1			3600					12
13	RV PEDESTAL	30 A	1	3600							14
15	RV PEDESTAL	30 A	1			3600					16
17											18
19											20
21											22
23											24
25											26
27	SPARE	15 A	1			0	0	1	20 A	SPARE	28
29	SPARE	15 A	1	0	0			1	20 A	SPARE	30
		TOTAL LOAD		10875 VA		11800 VA					
		TOTAL AMPS		91 A		98 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	1000 VA	100.00%	1000 VA		
LIGHTING	75 VA	125.00%	94 VA	TOTAL CONNECTED LOAD (VA)	22675 VA
RV PEDESTAL	21600 VA	100.00%	21600 VA	TOTAL CONNECTED LOAD (A)	94 A
				TOTAL ESTIMATED DEMAND (VA)	**22694 VA**
				TOTAL ESTIMATED DEMAND (A)	**95 A**

NOTES
PANEL TO BE WEATHERPROOF.

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
4A	120/240 V	1Ø-3W	400 A	MCB	10,000	SURFACE	NEMA 3R	
	LOCATION				MANUFACTURER		MODEL NUMBER	
	LOOP B				SQUARE D		NQ	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		C		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	WASHROOM	15 A	1	1000									2
3	WASHROOM	15 A	1			1000							4
5	RV PEDESTAL	30 A	1	3600									6
7	RV PEDESTAL	30 A	1			3600	75			1	15 A	LIGHTING	8
9	RV PEDESTAL	30 A	1	3600	75					1	15 A	LIGHTING	10
11	RV PEDESTAL	30 A	1			3600							12
13	RV PEDESTAL	30 A	1	3600									14
15	RV PEDESTAL	30 A	1			3600							16
17	RV PEDESTAL	30 A	1	3600									18
19	RV PEDESTAL	30 A	1			3600							20
21	RV PEDESTAL	30 A	1	3600									22
23													24
25	RV PEDESTAL	30 A	1	3600									26
27	RV PEDESTAL	30 A	1			3600							28
29													30
31	RV PEDESTAL	30 A	1			3600							32
33	RV PEDESTAL	30 A	1	3600	0					1	15 A	SPARE	34
35	RV PEDESTAL	30 A	1			3600	0			1	15 A	SPARE	36
37	RV PEDESTAL	30 A	1	3600	0					1	20 A	SPARE	38
39						0				1	20 A	SPARE	40
41					0					1	20 A	SPARE	42
		TOTAL LOAD		29875 VA		26275 VA		0 VA					
		TOTAL AMPS		249 A		219 A		0 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	2000 VA	100.00%	2000 VA		
LIGHTING	150 VA	125.00%	188 VA	TOTAL CONNECTED LOAD (VA)	56150 VA
RV PEDESTAL	54000 VA	96.00%	51840 VA	TOTAL CONNECTED LOAD (A)	234 A
				TOTAL ESTIMATED DEMAND (VA)	**54028 VA**
				TOTAL ESTIMATED DEMAND (A)	**225 A**

NOTES
PANEL TO BE WEATHERPROOF

PANEL NAME	VOLTAGE	PHASE-WIRES	MAINS RATING	MAINS TYPE	INTERRUPTING...	MOUNTING	ENCLOSURE	SUPPLY FROM
5A	120/240 V	1Ø-3W	400 A	MCB	20,000	SURFACE	NEMA 3R	
	LOCATION				MANUFACTURER		MODEL NUMBER	
	LOOP B				SQUARE D		NQ	

CKT	CIRCUIT DESCRIPTION	TRIP	P	A		B		C		P	TRIP	CIRCUIT DESCRIPTION	CKT
1	RV PEDESTAL	30 A	1	3600									2
3	RV PEDESTAL	30 A	1			3600							4
5	RV PEDESTAL	30 A	1	3600									6
7	RV PEDESTAL	30 A	1			3600							8
9	RV PEDESTAL	30 A	1	3600									10
11	RV PEDESTAL	30 A	1			3600							12
13	RV PEDESTAL	30 A	1	3600									14
15	RV PEDESTAL	30 A	1			3600							16
17	RV PEDESTAL	30 A	1	3600									18
19	RV PEDESTAL	30 A	1			3600							20
21	RV PEDESTAL	30 A	1	3600									22
23	RV PEDESTAL	30 A	1			3600							24
25	RV PEDESTAL	30 A	1	3600									26
27	RV PEDESTAL	30 A	1			3600							28
29	RV PEDESTAL	30 A	1	3600									30
31	RV PEDESTAL	30 A	1			3600							32
33	RV PEDESTAL	30 A	1	3600									34
35	WASHROOM	15 A	1			1000							36
37	LIGHTING	15 A	1	75									38
39	SPARE	15 A	1			0	0			1	20 A	SPARE	40
41	SPARE	15 A	1	0	0					1	20 A	SPARE	42
		TOTAL LOAD		32475 VA		29800 VA		0 VA					
		TOTAL AMPS		271 A		248 A		0 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	1000 VA	100.00%	1000 VA		
LIGHTING	75 VA	125.00%	94 VA	TOTAL CONNECTED LOAD (VA)	62275 VA
RV PEDESTAL	61200 VA	94.12%	57600 VA	TOTAL CONNECTED LOAD (A)	259 A
				TOTAL ESTIMATED DEMAND (VA)	**58694 VA**
				TOTAL ESTIMATED DEMAND (A)	**245 A**

NOTES
PANEL TO BE WEATHERPROOF

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ISSUED FOR COSTRUCTION

NOTES

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THIS DRAWING SUPERSEDES PREVIOUS ISSUES.

PROFESSIONAL AUTHENTICATION:

APEGA PERMIT No. P03581

APEGA ID: Mem. # 117434

Date of Authentication: October 24, 2024

RESPONSIBLE MEMBER VERIFICATION:
PERMIT TO PRACTICE
SCHEUNHAGE POPEK & ASSOCIATE LTD.
APEGA PERMIT NUMBER: 3581

RM. Signature:

RM. APEGA ID:

Date of Validation:

REVISION SCHEDULE

ISSUED FOR:	REVISION	DATE
100% CLIENT REVIEW	B	2023.11.29
100% CLIENT REVIEW	C	2024.10.03
100% CLIENT REVIEW	D	2024.10.23
CONSTRUCTION	1	2024.10.24

CLIENT:
SADDLE HILLS COUNTY

PROJECT:
SPRING LAKE CAMPGROUND - ELECTRIFICATION

SITE DESCRIPTION: SPRING LAKE CAMPGROUND, ALBERTA

DRAWING:
PANEL SCHEDULES

DRAWN BY:	JAN	PROF. REVIEW:	TSSN
TECH. REVIEW:	MAM	FINAL REVIEW:	TSSN

SPA PROJECT NUMBER: 23-107

DRAWING NUMBER: E2.3

REVISION: 1